Renewable Energy in the Republic of Kosovo: Regulatory and Financial Obstacles to RES Penetration and Deployment in the Market

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I hereby declare that the work submitted is mine and that where I have made use of another's work, I have attributed the sources according to the Regulations set in the Student's Handbook.

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Abstract

The dissertation assesses the current situation of renewable energies in Kosovo, focusing on regulatory and financial barriers. The researcher conducted a research study with the business community operating in this sector, in order to better address their problems. The findings of the research reveal that there is a political unwillingness to fully embrace renewable energy sources, as the focus is on supporting lignite power plants. Moreover, Kosovo is falling behind its trajectory in reaching its targets for RES-E and RES-T. The barriers faced by the business community are numerous starting from lack of ambitious RES policies to specific problems with national institutions. Likewise, there are many struggles with acquiring funds for constructing RES projects, which pose further hurdles to RES penetration into the market. Kosovo needs to genuinely embrace an energy transition aiming towards renewables and build a visionary long-term policy for deployment of RES into the market.

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List of abbreviations

AI- Administrative instruction

DSO- Distribution System Operator

EBRD- European Bank for Reconstruction and Development

ERO- Energy Regulatory Office of Kosovo

FIT- Feed-in tariff

GWh- Gigawatt per hour

IPP- Independent Power Producer

KEDS- Kosovo Electricity Distribution and Supply Company (Joint Stoc Company)

KOSTT- Kosovo Transmission, System and Market Operator (Joint Stoc Company)

kW/h- Kilowatt/ per hour

MED- Ministry of Economic Development

MESP- Ministry of Environment and Spatial Planning

MSMEs- Micro, Small, Medium Enterprises

MW- Megawatt

MWe- Megawatt electric

MW_{th}- Megawatt thermal

PPA- Power Purchase Agreement

RES (E, H&C, T)- Renewable Energy Sources (Electricity, Heating & Cooling, Transport)

SPV- Special Purpose Vehicle

TSO- Transmission System Operator

VAT- Value Added Tax

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1. Introduction

In October 2005, in the capital city of the Hellenic Republic, the treaty establishing the Energy Community was signed. The aim of this organization is the creation of 'an integrated pan-European energy market' whereby the contracting parties are legally bound by the Energy Community acquis communautaire covering renewable energy, electricity, gas, oil, environment, competition, energy efficiency, infrastructure, and statistics.[1] The Republic of Kosovo (hereinafter: Kosovo) is among the ten (10) members of the Energy Community, and as such it is legally bound to implement the 2009 EU Renewable Energy Directive and the respect of applicable EU secondary legislative acts.[2]

In this dissertation, the author will try to assess Kosovo's progress with respect to the promotion and deployment of renewable energy sources (hereinafter: RES) into the market. On a yearly basis the Energy Community Secretariat publishes an Implementation Report which presents the progress of the contracting parties in implementing the Energy Community acquis communautaire. The 2018 Implementation Report , for renewable energy in Kosovo, notes that there is little progress in promoting RES and there are regulatory changes that should take place, like the creation of rules for prosumers, improvement of transparency and non-discrimination among producers of renewable energy, and the overall lack of investments in renewable energy.[3] Despite the fact that the 2018 Implementation Report points out some obstacle currently affecting RES advancement in Kosovo, yet, it does not provide a conclusive elaboration as to specific issues. Therefore, the author has reasoned that the most appropriate way to assess some of the identified problems and analyze them thoroughly and objectively is by conducting a

[1] Energy Community, 'Factsheet' (2017) <https://www.energy-community.org/aboutus/whoweare.html> accessed 15 January 2019.
[2] ibid.
[3] Energy Community Secretariat, 'Annual Implementation Report' (2018) 1, 89-90, <https://www.energy-community.org/implementation/IR2018.html> accessed 15 January 2019.

research with the business community operating in the renewable energy field. Hence this dissertation aims to address the following three (3) broad questions:

1) How is Kosovo promoting the deployment of RES into the market and what else can be done?

2) What are the regulatory barriers to RES penetration and deployment into the market?

3) What are the financial barriers to RES penetration and deployment into the market?

2. Research methodology

This chapter presents the methodological approach followed for the completion of the research, as well as the methods used to collect, analyze and interpret the necessary data, which have contributed to the thorough investigation of the subject and the response towards the questions of this dissertation.

2.1 Research approach

The purpose of this study is to examine the obstacles faced by business community which operates renewable energy projects in Kosovo. In order to achieve this broad aim of the research, a qualitative research was conducted focusing on the barriers faced by the business community, both regulatory and financial barriers. In addition, it is inevitable not to assess the current promotion of RES by Kosovo's institutions.

A qualitative research was chosen because this process involves emerging questions and processes, while the analysis of the data which are collected can inductively transit from specific to general themes, by the use of correct and logical interpretation.[4]

By exploring and describing the obstacles faced by the business community, this research answers the questions that were suggested in the introduction, while also stresses out the

[4] John W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th edition, Sage, 2014) 37.

importance of further adjustments that are needed to be undertaken by Kosovo in order to advance the promotion of renewable energy.

This research uses the qualitative design of case studies,[5] where the researcher developed an in-depth analysis of renewable energy in Kosovo. The study was bounded by time and activity and the researcher gathered detailed information by the use of a variety of collection procedures, like interviews, questioners, national legislation and secondary sources. The description and correct interpretation of the subject under consideration was necessary in order to achieve the best possible findings and results.

2.2 Inductive and deductive data analysis

An inductive and deductive data analysis was used during the process of this study. According to Creswell, qualitative research can structure its patterns, categories and themes from the bottom up, by managing the data into progressively more abstract units of information. This process illustrates working back and forth between the data until the researcher has established a comprehensive set of content. Then deductively, determine if more evidence can support each theme or additional information is needed.[6]

2.3 Research sample and data collection

The size of the pool of potential participants for the present research, was limited to the number of thirty-nine (39) companies which are active in renewable energy production in Kosovo.[7] These companies were identified through the public database published online on the website of the

[5] John W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th edition, Sage, 2014) 43.
[6] John W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th edition, Sage, 2014) 234.
[7] ERO updates regularly the list, hence, new companies might be added. The research identified the companies through the list which was available online in December 2018. In February 2019, ERO updated the list and two new companies were added in in process for assessment for PV/solar technologies.

Energy Regulatory Office (hereinafter: ERO) which shows all the projects/companies that have applied for authorization for construction of generators for electricity production from RES. It must be pointed out, that this list includes four (4) types of categories of projects: 1) Projects in operation; 2) Projects which have received final authorization; 3) Projects which have received preliminary authorization and; 4) Projects in process, pending approval for preliminary authorization.

Based on the publicly available list, all the companies were connected for potential participation. The collection of the data resulted from the process of twenty (20) responses and interviews. It should be pointed out that in particular cases, a company may have more than one RES-E projects hence one questionnaire was filled out. In addition, in some cases there were two or more companies owned by the same owners, thus one questionnaire was filled describing the experience of all the companies under his/her ownership. These interviews took place either through individual meetings or through the use of internet-based communication. All participants meet important criteria for the interview, such as their position and active role in the organization, and the company's authorization to represent their business organization in this research.

During the interview process, a questionnaire of semi structured, and unstructured questions was used to deliver qualitative results, as provided in Appendix 1 and 2.[8]

The option of semi structured and unstructured questions was chosen because it allows participants to freely express their views and produce reliable, comparable and qualitative data.[9] Participation in the survey was voluntary, and a consent form was provided to each participant, as shown in Appendix 3 and 4[10], and the participants were informed that their personal data or specific information that could identify them would not be reported, hence full confidentiality of

[8] Appendix 1 is in English whereas Appendix 2 is in Albanian. Companies were given the opportunity to choose either language, according to their preferences.

[9] Deborah Cohen and Benjamin Crabtree, 'Qualitative Research Guidelines Project' (Robert Wood Johnson Foundation, 2006) <https://sswm.info/sites/default/files/reference_attachments/COHEN%202006%20Semistructured%20Interview.pdf> accessed 30 November 2018.

[10] Appendix 3 is in English whereas Appendix 4 is in Albanian. Companies were given the opportunity to choose either language, according to their preferences.

all participants of the business community is maintained throughout the dissertation. In connection to this, the researcher cannot point out which categories of renewable technologies participated in the research or in which stages of the process these companies are (in process, preliminary or final authorization or in operation.) However, the researcher reassures that a representative sample for each technology was interviewed, involving participants in all the stages. Lastly, the researcher held a few meetings with representatives from the finance sector in Kosovo, and finally the researcher decided to have an interview with one of the representatives based on the criteria that the participant has a thorough knowledge of the energy sector and finance sector in Kosovo. The answers were received via email and were provided in confidence without disclosing the name or the position of the participant.

2.4 Barriers and limitations

Throughout the process of this research and particularly during the collection of data from the existing literature, legislative sources, policy reports and interviews, significant barriers and limitations were presented.

During the bibliographical examination of the subject, it was found that there is a significant lack of academic research for renewable energy in Kosovo. The examination of both domestic and the world literature has produced very few results, which reinforced the need for further open research and interviews.

Throughout this research, multiple attempts were made to communicate with the businesses which are involved in the production of electricity from RES in Kosovo, many of which responded with delay, while several were reluctant to cooperate. This fact had a significant impact on following the initial schedule of this research.[11] In connection to the business community, the researcher has noticed that many questions were left unanswered by certain companies due to lack of information.

[11] The dissertation was initially planned for submission on 31 January 2019, however, an extension of the deadline was approved by the General Assembly of the International Hellenic University for 10 February 2019.

In addition, the researcher has tried to communicate with the representatives of the Kosovo Renewable Energy Association however neither their emails nor the website of the organization is functional. Furthermore, the author has communicated with the representatives of the Balkan Green Foundation, an NGO which also cooperates with the Energy Community and whose aim is promotion of green policies, however, they did not reply to the questions sent to them via email, by the time of the finalization of this research.

3. Regulatory and promotional measures for RES in Kosovo

In this chapter one will have the chance to read about the current regulatory framework in Kosovo and measures that the local institutions are implementing in order to promote RES penetration and deployment into the market. This chapter is divided into three (3) sub-chapters: national renewable energy targets; support schemes and construction of RES generating capacities and; renewable energy self-consumption. Under each sub-chapter, the researcher will present the results of the research conducted with the business community.

3.1 National renewable energy targets

Kosovo has agreed to a binding RES target of 25 % in the gross final energy consumption by 2020 and a voluntary RES target of 29.47 %.[12] In breaking down the total obligatory target of 25% of gross final energy consumption coming from RES, 14.33% RES is projected for electricity; 10% of RES in transport and 45.65 % RES in cooling and heating.[13] Table 1 below presents the projected trajectory of RES targets starting from 2009 until 2020, for both mandatory and voluntary targets, for each sector.

[12] Ministry of Economic Development, 'National Renewable Energy Action Plan (NREAP) 2011-2020' (2013), 14 <https://www.energy-community.org/implementation/Kosovo/reporting.html> accessed 10 January 2019 .
[13] ibid 17.

Table 1: Kosovo's national trajectory for achieving its RES targets

Table 3 - National target for 2020 and estimated trajectory of energy from renewable sources in heating and cooling, electricity and transport

As Part B of Annex I to the Directive

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
RES-H&C[15] (%)	48.37%	47.64%	44.07%	46.45%	45.22%	44.91%	44.77%	44.84%	45.24%	45.37%	45.53%	45.65%
RES-E[16] (%)	2.26% 2.26%	2.85% 2.85%	1.71% 1.71%	2.16% 2.16%	2.12% 2.12%	5.13% 7.34%	5.62% 13.78%	6.58% 15.00%	13.20% 21.60%	14.42% 23.18%	14.10% 23.39%	14.33%* 25,64%**
RES-T[17] (%)	0,03%	0,02%	0,04%	0,00%	0,00%	1,00%	2,00%	3,00%	4,00%	6,00%	8,00%	10,00%
Overall RES share[18] (%)	18.90% 18.90%	19.26% 19.26%	17.65% 17.65%	18.18% 18.18%	18.25% 18.25%	19.29% 20.14%	19.66% 22.80%	20.33% 23.57%	23.20% 26.45%	24.20% 27.58%	24.42% 28.09%	25.00%* 29.47%**
Of which from coop. mechanisms[19]												
Surplus for cooperation mechanisms[17]												

	2011-2012	*2013-2014*	*2015-2016*	*2017-2018*	*2020*
	S2009 +20% (S_{2020}-S_{2009})	*S2009 +30%* (S_{2020}-S_{2009})	*S2009 +45%* (S_{2020}-S_{2009})	*S2009 +65%* (S_{2020}-S_{2009})	S_{2020}
RES minimum trajectory (%)	20.12	20.73	21.65	22.87	25
RES minimum trajectory (ktoe)	348.04	358.59	374.42	395.52	432.46

*) RES targets in compliance with MC Decision No. 2/2012/04 MC. date 18 October 2012

**) RES targets based on AI for RES targets, No. 01/2013

The trajectory of RES deployment is falling short of minimum RES trajectory for achieving mandatory targets as defined by REAP template, with the base year being 2009 instead of 2005. This appears due to the late start of Kosovo RES policy and only for the period up to 2015, therefore it is not relevant.

Source: Ministry of Economic Development, NREAP 2011-2020, 17.[14]

In its latest implementation report, the Energy Community Secretariat notes that Kosovo is on track with its trajectory as in 2016 it has achieved 24.6 % RES in gross final energy consumption. However, the same report notes that this achievement is due to adjustments presented by Kosovo in its heating sector, by counting biomass consumption by households rather than investments in renewable energy.[15]

In connection to this, EUROSTAT data show that in 2016 RES accounted for 6.2 % of the total electricity consumption in Kosovo which is 0.38% below the initial trajectory set in the above

[14] ibid.

[15] Energy Community Secretariat, 'Annual Implementation Report' (2018) 1, 90, <https://www.energy-community.org/implementation/IR2018.html> accessed 15 January 2019.

table.[16] In order to shed some light on the actual use of RES-E in Kosovo, it is worth starting by presenting the data provided by the Energy Regulatory Office on the number of RES projects which are in operation for electricity generation. As of the 2nd of February 2019, there were a total of six (6) small hydropower projects in operation with a total capacity of 31.31 MW. Likewise, six (6) photovoltaic projects with a total capacity of 6.602 MW and two (2) wind projects with a total capacity of 33.75 MW were in operation. With respect to biomass there were no projects in operation and only one project with a capacity of 1.5 MW is in the process of being assessed by ERO.[17] In connection to this, it's worth pointing out that on ERO's Electric and Thermal Energy Balance for 2019, the production of electricity from small hydro plants and wind and photovoltaics connected to the distribution network was set at 66,7 GWh whereas the production of electricity from two lignite-fired power plants, Kosova A and Kosova B and two big hydro plants, Ujmani and Kaskada e Lumbardhit, and one wind park connected to the transmission network was set at 5,5629.6 GWh, with Kosova A and Kosova B producing 5,334.1 GWh. Hence from the data provided above, 93.64 % of electricity produced in 2019 will derive from two lignite-fired power plants whereas RES will participate with 6.36%.[18] Based on the data provided in the Energy Balance and the RES trajectory for the binding target, Kosovo in 2019 will inevitably fall below its target for RES-E, which amounts to 14.10 % (mandatory target) and 23.39 % (voluntary target).

With respect to RES in transport sector, Kosovo is yet to adopt the Law on Trade in Petroleum Products and Renewable Fuels and the Administrative Instruction on Biofuels, hence, it remains to be seen if it will manage to achieve 10 % RES in transport sector through imported biofuels by 2020. As of February 2019, the share of RES in transport sector equals 0. It is interesting to

[16] Eurostat, 'Enlargement countries- energy statistics' (2018) <https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Enlargement_countries_-_energy_statistics#Energy_consumption> accessed 15 January 2019.

[17] Energy Regulatory Office, 'Applicants' Register for Authorization' (Excel File, updated in February 2019) 1-2, 7, 14 <https://www.ero-ks.org/w/shqip/autorizimitenderimi-mainmenu-155/regjistri-i-aplikuesve-mainmenu-178> accessed 2 February 2019.

[18] Energy Regulatory Office, 'Electric and Thermal Energy Annual Balance for 2019' (published in Albanian only, 2019) 7-8 < http://ero-ks.org/2019/Sektoret/Bilanci%20Vjetor%20i%20Energjise%20Elektrike%20dhe%20Termike%20per%20vitin%202019.pdf > accessed 2 February 2019.

note that Kosovo does not aim at using electricity deriving from RES in its transport sector nor does it have any strategy for future electrification of its transport sector.[19]

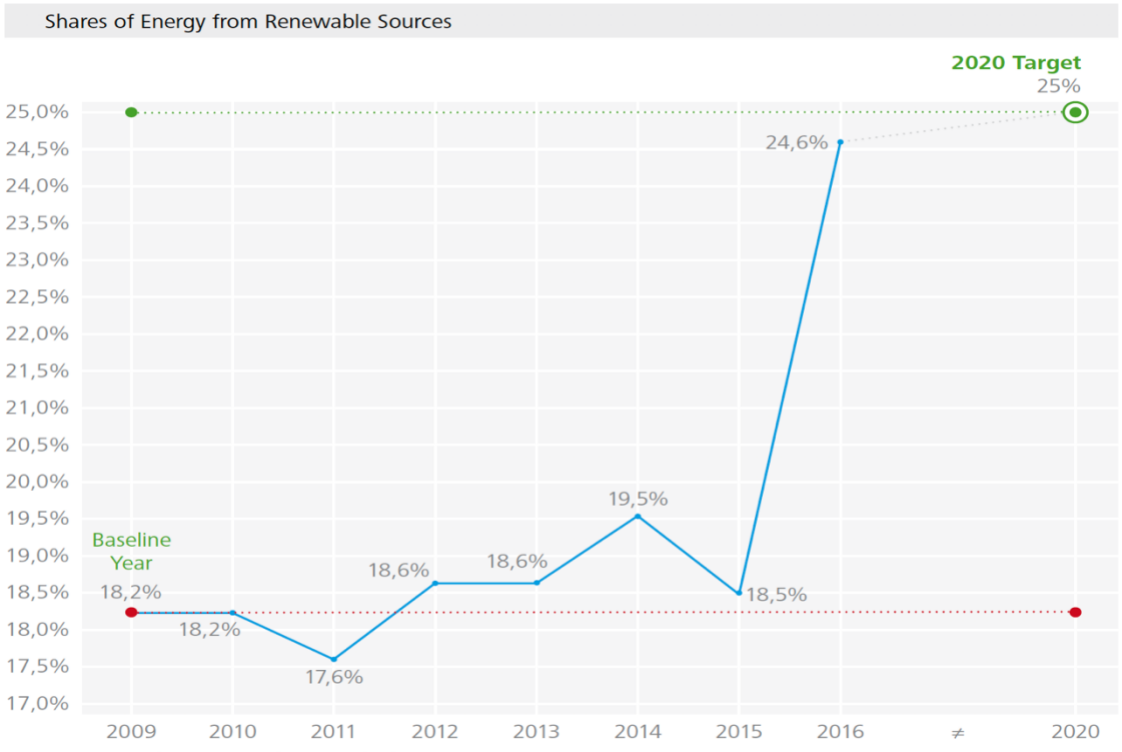
With respect to heating and cooling, it's important to point out that Kosovo has two district heating systems, one in its capital Prishtina and the other one in the city of Gjakova. The district heating in Prishtina, named Termokos, has 13,459 consumers (12,299 residential consumers and 1,160 institutional and commercial consumers). The thermal energy is a product of cogeneration, deriving from the lignite-fired power plant Kosova B. It has an installed capacity of 140 MW_{th} and operating capacity of 137.48 MW_{th}. In addition to the thermal energy generated through cogeneration process, Termokos has its own thermal energy generation capacities, by using boilers fired by mazut fuel which are currently not being used due to the utilization of cogeneration and may be used only during peak periods or if there is a shortage of supply from Kosova B.[20] In total, the district heating Termokos has the following generating capacities for thermal energy, 274 MW_{th} (installed capacity) and 252.28 MW_{th} (operating capacity).[21] Contrary to Termokos, the district heating of Gjakova does not yet have a cogeneration unit and only uses mazut fuel for its two boiler stations; one boiler station has a capacity of 18.6 MW_{th} and the other one 20 MW_{th}. However, the district heating of Gjakova has an ongoing project planned to be operational in January 2020 which involves two biomass-fired boilers for generation of thermal energy each with a nominal capacity of 5.5 MW_{th} and one cogeneration unit with a capacity of 1.10 MW_e and 4MW_{th}.[22] Based on the data provided above, it can be established that as the current situation stands, there are no biomass fired boilers used in the district heating in Kosovo. With respect to solid biomass used for heating purposes, firewood is the main source of wood

[19] Ministry of Economic Development, 'National Renewable Energy Action Plan of the Republic of Kosovo 2011-2020: Update 2018-2020' (draft NREAP published for public consultation in August 2018) 10 < http://konsultimet.rks-gov.net/viewConsult.php?ConsultationID=40428> accessed 20 January 2019.
[20] Energy Regulatory Office, 'Electric and Thermal Energy Annual Balance for 2019' (published in Albanian only, 2019) 19 < http://ero-ks.org/2019/Sektoret/Bilanci%20Vjetor%20i%20Energjise%20Elektrike%20dhe%20Termike%20per%20vitin%202019.pdf > accessed 2 February 2019.
[21] ibid 20.
[22] ibid 25-26.

biomass used in Kosovo.[23] As it has been pointed out earlier in this paper, Kosovo has managed to keep on track with its RES trajectory due to a statistical correction that it has made with regards to biomass use in the heating sector. However, the reliability of those data, specifically to residential use of firewood, is questionable. In the meantime, it should be noted that Kosovo could make substantial achievements in promoting RES in heating and cooling sector by fostering policies that aim at promotion and usage of heat pumps, solar collectors for hot water and high-efficient biomass boilers and stoves.

As figure 1 below shows RES share in 2016 was 24.6 % which supersedes also the trajectory cumulative target for year 2019.

Figure 1: Kosovo's RES share in 2016



Source: EUROSTAT and Kosovo Agency for Statistics, citied in Energy Community Secretariat 2018 Implementation Report.[24]

[23] Ministry of Economic Development, 'Kosovo Progress Report on promotion and use of energy from Renewable Energy Sources under Directive 2009/28/EC as adopted by the Ministerial Council Decision 2012/04/MC-EnC', (2014) 9-10.

[24] Energy Community Secretariat, 'Annual Implementation Report' (2018) 1, 17, <https://www.energy-community.org/implementation/IR2018.html> accessed 15 January 2019.

However, beside the fact that in 2016, 24.6% RES in gross final energy consumption was reported, yet, as it has been elaborated above, Kosovo falls short on its planned trajectory for both RES-E and RES-T. Moreover, the achievement of the target for RES-H&C does not equal a substantial achievement of Kosovo as the main source is wood biomass extracted from the forests. Based on the data presented above for RES-E projects which are in the administrative procedure of receiving authorization for constructing new generating capacities, there is potential for RES deployment that goes beyond the national targets and the set quotas eligible for support schemes. Likewise, Kosovo should closely follow and act in accordance with the new global trends which show that renewables and electrification of sectors is the future path.[25]

In the following section, one can review the results of the research with the business community with respect to Kosovo's current and future target and contribution of RES in the transport sector.

3.1.1 Results from the research with the business community: RES targets

In the research conducted by the researcher, inter alia, the business community was asked to provide its insight with respect to the current RES target of 25% and a new target that Kosovo must aim for up to 2030. In addition, the business community was asked to share its views on potential contribution of RES in electrification of the transport sector for the next 10-20 years.

With respect to the current RES target of 25%, the business community, in majority, views this as an appropriate target however some representatives of certain corporations have raised doubts with respect to its achievement. In addition, the business community has proposed a target ranging between 35-40% by 2030 and have pointed out that Kosovo should be more ambitious with green policies. In connection to the future targets some businesses propose a higher target for photovoltaic energy. Likewise, it must be noted that many companies stated that they do not have an answer or have no idea on this matter.

With regards to potential RES contribution to electrification of the transport sector, all but two participants have stated that for the next 10-20 years electrification of the transport sector in Kosovo would be a doable aim. One of the negative replies has pointed out that this aim would

[25] IRENA, Electrification with Renewables: Driving the transformation of energy services, (2019) <https://www.irena.org/publications/2019/Jan/Electrification-with-Renewables> accessed 2 February 2019.

not be doable as only a very small percentage could be achieved due to lack of sufficient capacity. The other negative reply has pointed out that the best RES for such an aim would be hydropower (due to the return on investment and the non-volatile nature) however due to its limited capacity in Kosovo, it cannot be fulfilled whereas the contribution from wind and solar was depicted negatively due to large investment costs, volatile nature and longer periods for return on investment. With respect to the replies which see the electrification of the transport sector as a doable aim, some have stated that solar power can contribute however shorter administrative procedures are requested and adequate and effective national policy involving financial support. Likewise, some have argued that there is a need for investment in infrastructure and development of battery technologies. Lastly, it was pointed out the RES can contribute in electrification of public transport sector like buses and trains. [26]

Below the researcher will present the currently available support schemes in Kosovo, as a financial incentive for RES procedures and national requirements for construction of RES generating capacities.

3.2 Support schemes and construction of RES generating capacities

Through its secondary legal act, the Republic of Kosovo establishes the grounds for support schemes which may be utilized with respect to RES. It's worth noting that Art. 3, para. 1.7 of the Administrative Instruction (AI) on Utilization and Support of Energy Generation from Renewable Sources, when defining the support schemes makes a wide reference to all the possible mechanism that exists globally, like green certificates, feed-in tariffs and premiums, and tax incentives. With respect to RES-E, the above-mentioned AI stipulates that the electricity producers that utilize RES are entitled to apply for support schemes which is compensated by feed-in tariffs or premiums.[27] However, for generating capacities of over 100 kW (wind plants up to 35 MW; solar plants up to 3 MW; hyrdo plants up to 10 MW and; biomass plants up to 14 MW) the possibility to be supported via feed-in premiums is provided, whereby the premium can be

[26] Communication with representatives of the renewable energy business community in Kosovo (8-31 January 2019).
[27] Ministry of Economic Development, Administrative Instruction (MED) No. 06/2017 on Utilization and Support of Energy Generation from Renewable Source [2017] 1, Art. 9.1.

allocated through tenders.[28] In addition, cogeneration plants with a high efficiency of RES utilization, can benefit from additional feed-in tariff or premium.[29]

Likewise, Kosovo's legislation stipulates feed-in tariffs for RES-H, however no decision has been rendered yet by the Board of Energy Regulator Office (ERO) which clarifies the procedures, or the amount of support given.[30]

In compliance with the requirements deriving from the Law on Energy, and the Administrative Acts, on 19 May 2016 the Board of Energy Regulator Office (ERO) adopted a decision on support schemes for RES-E. Among many issues stipulated in the decision, it's worth pointing out that feed-in tariff is the only applicable support scheme and it is applicable for the installed generating capacities with zero operational life, whereas for solar panels and photovoltaic systems, there is a requirement to be recyclable.[31] In addition, it must be pointed out that Kosovo has set targets for electric capacity deriving from different renewable energy technologies which could benefit from the support schemes. Table 2 below, shows the national targets for each technology set up to 2020.

Table 2: National quotas for renewable technologies eligible for support schemes

RES-E (MW)	2016	2017	2018	2019	2020
Photovoltaic energy	6.00	7.00	8.00	9.00	30.00
Solid biomass	6.00	8.00	10.00	12.00	20.00
Wind	1.35	61.35	114.85	129.00	150.00
Small existing hydropower capacities	48.18	48.18	48.18	48.18	48.18
Small new hydropower plants	40.41	56.81	181.29	187.00	240.00
HPP Zhur					305.00
Total capacity	101.94	181.34	362.32	385.18	793.18

Source: Ministry of Economic Development.[32]

Beside the set targets for each technology which could benefit from the support schemes, there is also an additional criteria that the generating capacities should fulfill, which is the size of

[28] ibid art 9.3.
[29] ibid art 9.4.
[30] ibid art 10.1 .
[31] Energy Regulatory Office, Decision on Feed-In Tariff [2016], para ii <http://ero-ks.org/2016/Vendimet/V_810_2016_eng.pdf> accessed 3 November 2019.
[32] Ministry of Economic Development, Administrative Instruction (MED) No. 05/2017 Renewable Energy Source Targets [2017], Annex 1.

capacity. The decision of ERO explicitly states that only the following capacities can benefit from the feed-in tariff: photovoltaics up to 3 MW; wind energy up to 35 MW; solid biomass up to 14 MW; and new small hydro plants up to 10 MW.[33] With respect to this limit, what usually happens in practice is that in case a corporation will supersede the size of capacity, it will simply breakdown one already planned project into two or more smaller projects and stay within the limit of capacity.

With regards to the level of feed-in-tariffs guaranteed to different technologies, photovoltaics are compensated by 136.4 EUR/MWh; wind by 85.0 EUR/MWh; new small hydro plants by 67.47 EUR/MWh and; biomass by 71.30 EUR/MWh.[34] In addition, hydro-energy and solid biomass are provided with a ten (10) year power-purchase agreement, whereas photovoltaics/solar energy and wind energy are entitled to a twelve (12) year power purchase agreement.[35] However, if one analyzes the PPA offered to RES projects in comparison to the PPA signed with an international corporation to build a new lignite fired power plant, known as Kosova e Re, one will notice that the contract for Kosova e Re was directly served to the government of Kosovo, without the government having negotiated it whereas the PPA for RES projects is already an existing template approved by ERO and given to corporations without being able to be negotiated by RES producers.[36] Among many differences that one may find between the two PPAs, a key dissimilarity of the PPA offered to RES projects is that it is not government backed/guaranteed as the one for the new lignite power plant.[37]

[33] Energy Regulatory Office, Decision on Feed-In Tariff [2016], para viii <http://ero-ks.org/2016/Vendimet/V_810_2016_eng.pdf> accessed 3 November 2019.

[34] Energy Regulatory Office, Decision on Feed-In Tariff [2016], para vi <http://ero-ks.org/2016/Vendimet/V_810_2016_eng.pdf> accessed 3 November 2019.

[35] Energy Regulatory Office, Decision on Feed-In Tariff [2016], para ix <http://ero-ks.org/2016/Vendimet/V_810_2016_eng.pdf> accessed 3 November 2019.

[36] Hunton and Williams, 'Power Purchase Agreement between the Republic of Kosovo and CountourGlobal Terra 6 S.a.r.l' <https://mzhe-ks.net/repository/docs/1._Power_Purchase_Agreement_(Execution_Version).pdf> accessed 1 January 2019; Energy Regulatory Office, 'Power Purchase Agreement for Generating Capacities from Renewable Energy Sources Supported by the Rule of Support Scheme' < http://ero-ks.org/2017/Rregullat/draft%20-%20PPA%20-%20MO%20and%20FiT%20RES%20Producer.pdf> accessed 1 January 2019.

[37] Matthias Buck and others, 'Phasing in Renewables: Towards a prosperous and sustainable energy future in Kosovo: challenges and possible solutions' (2018) 30-33 < https://www.germanwatch.org/en/15497> accessed 1 January 2019.

Beside the guaranteed feed-in tariff which is applicable at the time of admission in the support scheme, no future changes in the feed-in tariff can affect the already admitted projects.[38] RES-E projects which are admitted in the support schemes have the right to priority dispatch and have priority in examining their request for access to transmission or distribution network, depending on the voltage level.[39]

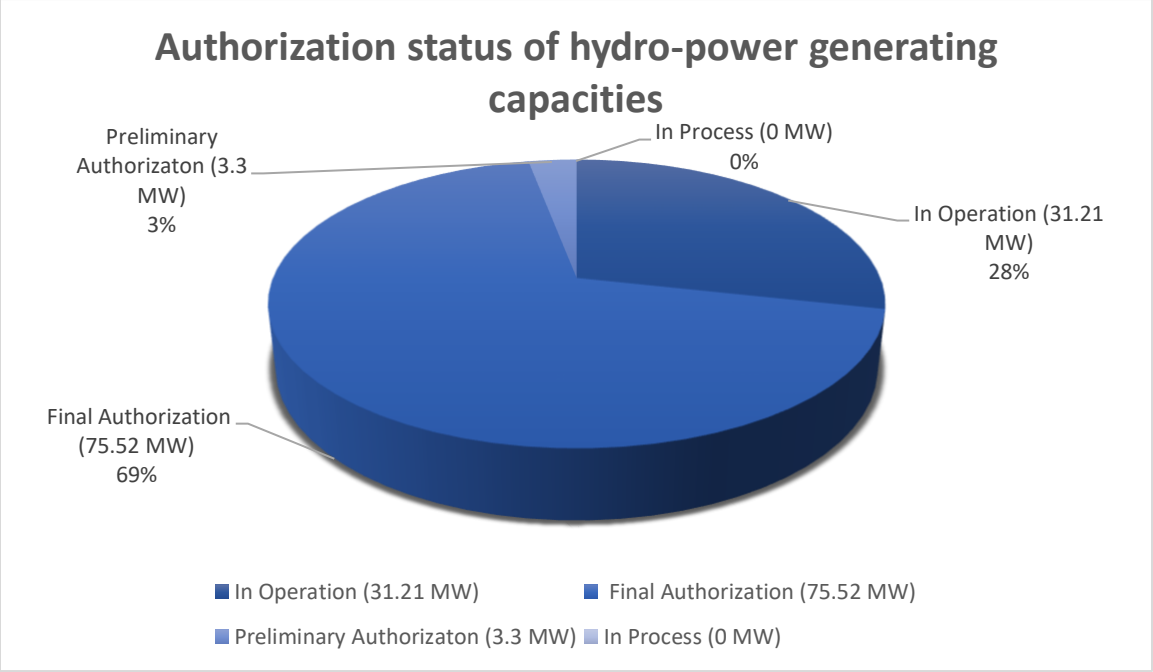
According to ERO's registery of RES generating capacities, as of the 2nd of February 2019, there were six (6) operating hydro-power plants with a total capacity of 31.31 MW. In addition, nineteen (19) generating capacities have received the final authorization for a total capacity of 75.52 MW. One generator with a capacity of 3.3 MW received preliminary authorization and there were no generators which were in the process.[40] As the graph 2 below shows, among all the generating capacities throughout the entire phases, only 31.21 MW are operational which means twenty-eight (28) % of the potential hydro-power projects; 75.52 MW or sixty-nine (69) % of the potential hydro-power projects have received final authorization; 3.3 MW or three (3) % of the potential hydro-power projects have received preliminary authorization.

[38] Energy Regulatory Office, ERO/Rule No.10/2017 on Support Scheme for Renewable Energy Sources Generators [2017] art 11.5 <http://ero-ks.org/2017/Rregullat/Rule%20on%20Support%20Scheme_2017.pdf > accessed 3 November 2018.

[39] Energy Regulatory Office, ERO/Rule No.10/2017 on Support Scheme for Renewable Energy Sources Generators [2017] art 1.3, 1.4 <http://ero-ks.org/2017/Rregullat/Rule%20on%20Support%20Scheme_2017.pdf > accessed 3 November 2018.

[40] Energy Regulatory Office, 'Applicants' Register for Authorization' (Excel File, update in February 2019) 1-6 <https://www.ero-ks.org/w/shqip/autorizimitenderimi-mainmenu-155/regjistri-i-aplikuesve-mainmenu-178> accessed 2 February 2019.

Graph 2: Authorization status of hydro-power plants

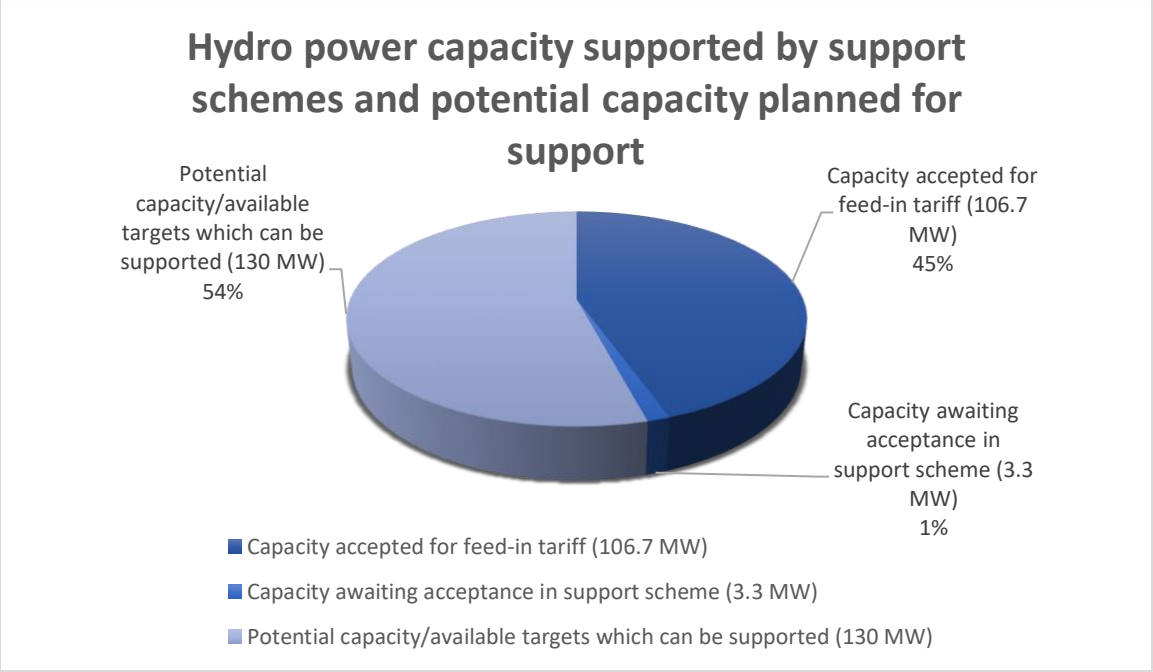


Source: Researcher's own graph based on the data found in ERO's database

Based on the table 1 above, Kosovo has planned up to 2020 a total of 240 MW for new hydro power-plants, which also means that this capacity will be supported by national support schemes. As of the 2nd of February 2019, 106.7 MW of projects either in operation or having received final authorization were accepted in the support scheme, where feed-in tariff is applicable; only one project of 3.3 MW which was provided with preliminary authorization is still awaiting acceptance to the support scheme.[41] Graph 3 below shows the current capacities accepted in the support scheme and the available capacity which can be supported in the future based on the national quotas for hydro-power.

[41] Please note that there might be a mistake with ERO's database with respect to this project. This project has received preliminary consideration however its application for the support schemes is pending, hence, there is a big chance that this project was already accepted in the support scheme. According to the Rules of ERO, the Regulatory Office admits in the support schemes all the projects which were issued preliminary authorization and specifically when there is available capacity which can be supported via the national support scheme. However, the researcher proceeded according to the data published by ERO, as she did not communicate with ERO to clarify this potential mistake.

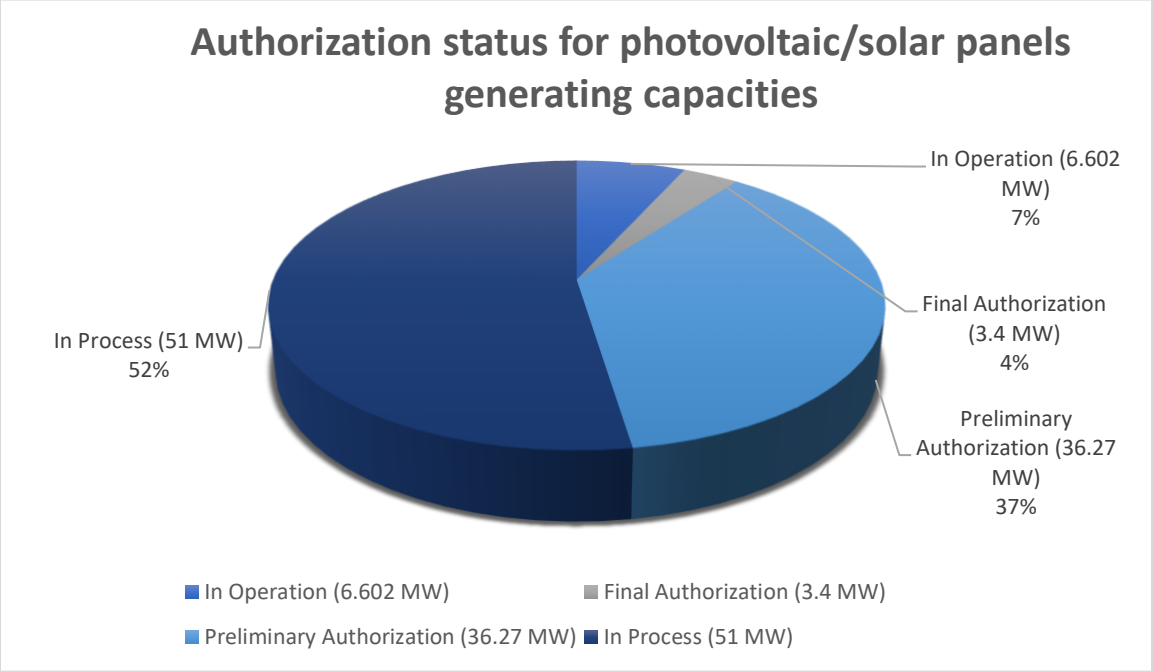
Graph 3: Hydro plants included in the support schemes and available capacity



Source: Researcher's own graph based on data from ERO's database and national quotas

With respect to photovoltaic/solar panel power plants, as of the 2nd of February 2019, there were four (4) generating capacities which were in operation and with a total capacity of 6.602 MW. Two (2) generating capacities received final authorization for a total capacity of 3.4 MW. Thirteen (13) generating capacities were issued preliminary authorization with a total capacity of 36.27 MW. Seventeen (17) generating capacities were in the process, awaiting the preliminary/final authorization for a total capacity of 51 MW. As the graph 4 below shows, among all the generating capacities throughout the entire phases, only 6.602 MW are operational which means seven (7) % of the entire potential photovoltaic power.

Graph 4: Authorization status of PV/solar power plants

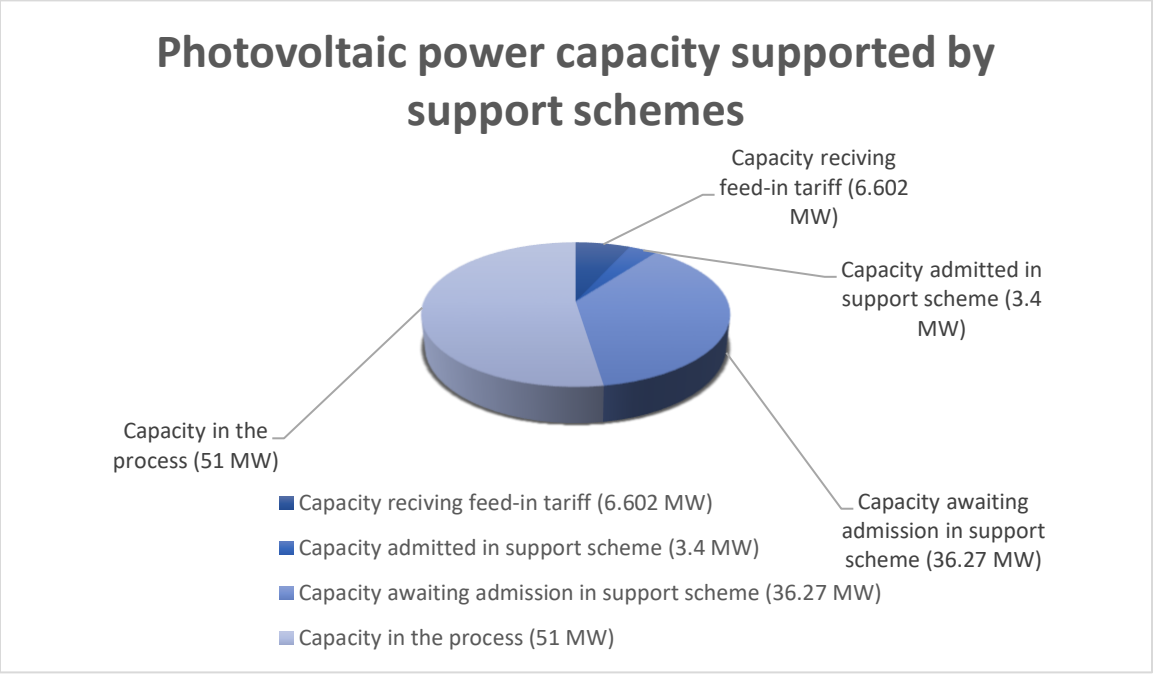


Source: Researcher's own graph based on data found in ERO's database

Based on the table 1 above, Kosovo has planned up to 2020 a total of 30 MW for photovoltaic power-plants, which also means that this capacity will be supported by national support schemes. As of the 2nd of February 2019, 10.002 MW of projects both in operation and having received final authorization were accepted in the support scheme, where feed-in tariff is applicable; and 36.27 MW are awaiting to be accepted in the support scheme, as part of having received the preliminary authorization. In addition, there is a total capacity of 51 MW which is in the process hence pending preliminary authorization and yet not available to be included in the support schemes. It is interesting to note that the projects which currently are awaiting admission to the support schemes supersede the planned capacity which will be supported by support schemes for solar power technologies.

Graph 5 below shows the current capacities admitted in the support scheme and those awaiting admission.

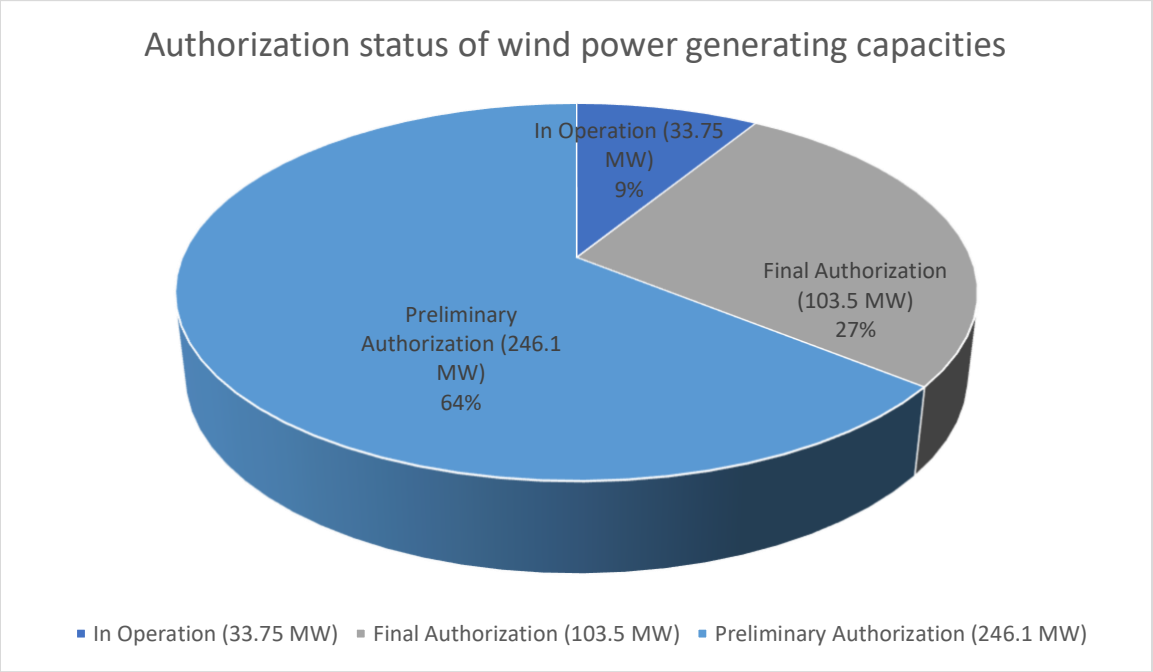
Graph 5: PV/solar plants included in the support schemes



Source: Author's own graph based on the data found in ERO's database

With respect to wind energy, as of the 2nd of February 2019, there were two (2) generating capacities with a total of 33.75 MW in operation. There were three (3) generating capacities which have received final authorization with a total capacity of 103.5 MW. In addition, there were eight (8) generating capacities which have received preliminary authorization for a total capacity of 246.1 MW and 0 projects were in the process. Graph 6 below shows that as of the 2nd of February 2019, nine (9) % of the potential wind power capacities were in operation; twenty-seven (27) % received final authorization and sixty-four (64) % received preliminary authorization.

Graph 6: Authorization status of wind power plants

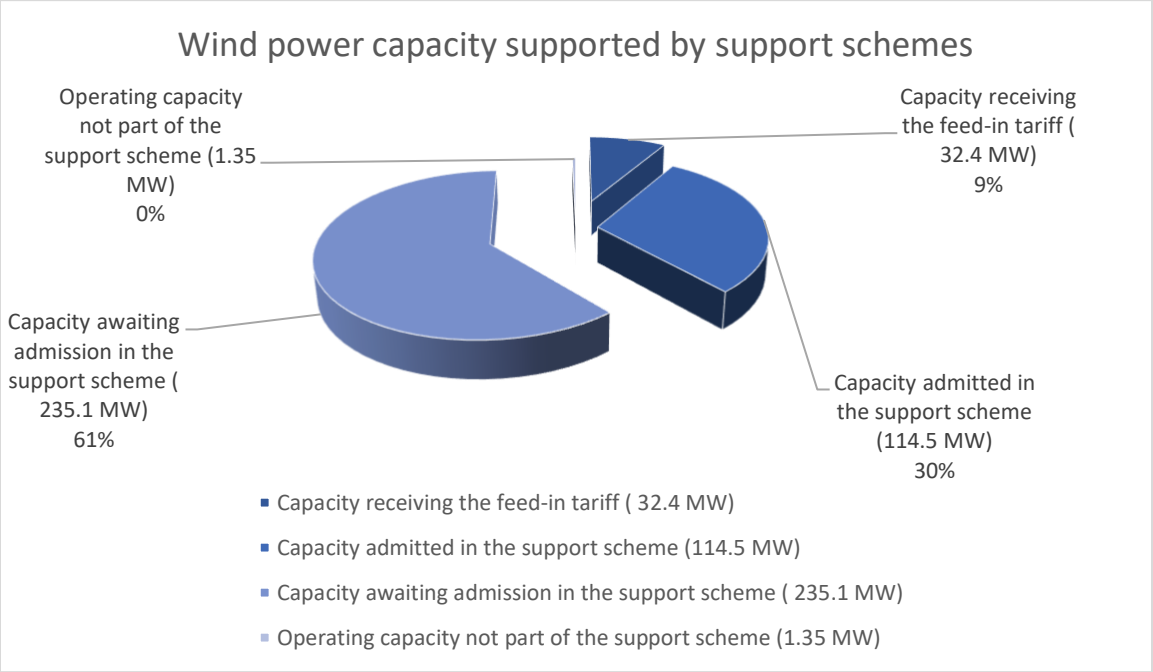


Source: Researcher's own work based on the data found in ERO's database

Based on the table 1 above, Kosovo has planned up to 2020 a total of 150 MW for wind power-plants, which also means that this capacity will be supported by national support schemes. As of the 2nd of February 2019, 32.4 MW of projects in operation were accepted in the support scheme, where feed-in tariff is applicable and 103.5 MW of projects with final authorization and 11 MW of projects with preliminary authorization were accepted in the support scheme. A number of other projects which have received preliminary authorization for a total generating capacity of 235.1 MW are awaiting to be accepted in the support schemes. It is interesting to note that the projects which currently are awaiting admission to the support schemes surpass the planned capacity which will be supported by support schemes for wind power technologies.

Graph 7 below shows the current capacities admitted in the support scheme and those awaiting admission.

Graph 7: Wind plants included in the support schemes



Source: Researcher's own work based on the data found in ERO's database

With respect to Biomass, there were no generation capacities either in operation or having received a final/or preliminary authorization; there was only one application submitted in April 2018 which was in process for a capacity of 1.5 MW.

As one can realize from all the information provide above, Kosovo currently has support schemes in place only for RES-E, whereas RES-T and RES-H&C are not currently supported, despite the fact that the national legal framework stipulates that RES can be supported in all the sectors. With respect to Kosovo's applicable support scheme, it must be pointed out that as part of the Energy Community, Kosovo is bound by the EU's legal framework, hence, it must also follow the Guidelines on State aid for environmental protection and energy 2014-2020[42] which stipulates a switch towards market-oriented support mechanism and the support to be allocated via tenders/auctions.[43]

[42] Commission, Guidelines on State aid for environmental protection and energy 2014-2020 of 28 June 2014 (Communication) OJ C 200/1.

[43] For an in-depth view into the discussion of support mechanisms see the following sources. Marc Ringel, 'Fostering the use of renewable energies in the European Union: the race between feed-in tariffs and green certificates' (2006)

Lastly a key issue which must be pointed out is the lack of harmonization of legal framework which directly affects RES projects. For instance, whereas RES projects are guaranteed PPA for 10-12 years depending on the technology, the permits to use public property such land and forests is granted only up to 5 years.[44] In order to harmonize all the procedures and assist RES

31(1) Renewable Energy 1; Trent Berry and Mark Jaccard, 'The renewable portfolio standard: design considerations and an implementation survey' (2001) 39 Energy Policy 263; Volkmar Lauber, 'REFIT and RPS: options for a harmonised Community framework' (2004) 32(12) Energy Policy 1405; Wilson Rickerson and others, (2007). 'If the shoe FITs: Using feed-in tariffs to meet US renewable electricity targets.' (2007) 20 (4) The Electricity Journal 73; Commission, 'The support of electricity from renewable energy sources: Accompanying document to the Proposal for a Directive of the European Parliament and of the Council on the promotion of the use of energy from renewable sources' COM (2008) 19 final, 4-5; Lucy Butler and Karsten Neuhoff, 'Comparison of Feed in Tariff, Quota and Auction Mechanisms to Support Wind Power Development' (2008) 33(8) Renewable Energy 1854; Jonathan A Lesser and Xuejuan Su, 'Design of an economically efficient feed-in tariff structure for renewable energy development' (2008) 36(3) Energy Policy 981; Mauricio Solano-Peralta and others, ' "Tropicalisation" of Feed-in Tariffs: A custom-made support scheme for hybrid PV/diesel systems in isolated regions (2009) 13(9) Renewable and Sustainable Energy Reviews 2279; Toby Couture and Yves Gagnon, 'An analysis of feed-in tariff remuneration models: Implications for renewable energy investment' (2010) 38(2) Energy Policy 955; Roger Hildingsson and others, 'Renewable energies: a continuing balancing act?' in Andrew Jordan and others (eds) Climate Change Policy in the European Union: Confronting the Dilemmas of Mitigation and Adaption? (Cambridge University Press 2010) 106; Tom Howes, 'The EU's New Renewable Energy Directive' in Sebastian Oberthur and Marc Pallemaerts (eds) The New Climate Policies of the European Union: Internal Legislation and Climate Diplomacy (VUBPRESS 2010) 120; Jasper Rigter and Georgeta Vidican, 'Cost and optimal feed-in tariff for small scale photovoltaic systems in China' (2011) 38(11) Energy Policy 6989; Robert Wand and Florian Leuthold, 'Feed-in tariffs for photovoltaics: Learning by doing in Germany? (2011) 88(12) Applied Energy 4387; Goran Krajačić and others, 'Feed-in tariffs for promotion of energy storage technologies' (2011) 39(3) Energy Policy 1410; Greg Buckman, 'The effectiveness of Renewable Portfolio Standard banding and carve-outs in supporting high-cost types of renewable electricity (2011) 39(7) Energy Policy 4105 ;Julieta Schallenberg-Rodriguez and Reinhard Haas, 'Fixed fee-in tariff versus premium: A review of the current Spanish system' (2012) Renewable and 16 (1) Sustainable Energy Reviews 293; Riccardo Fagiani and others, 'Risk-based assessment of the cost-efficiency and effectivity of renewable energy support schemes: Certificate markets versus feed-in tariffs' (2013) 55 Energy Policy 648; Sara Proenca and Miguel Aubyn, 'Hybrid modelling to support energy-climate policy: Effects of feed-in tariffs to promote renewable energy in Portugal' 38 (C) Energy Economics 176; Steffen Jenner and others, 'Assessing the strength and effectiveness of renewable electricity feed-in tariffs in European Union countries' (2013) 52(C) Energy Policy 385; Paul Lehmann, 'Supplementing an emissions tax by a feed-in tariff for renewable electricity to address learning spillovers' (2013) 61(C) Energy Policy 635; Maria Pablo-Romero, 'Incentives to promote solar thermal energy in Spain' (2013) 22(C) Renewable and Sustainable Energy Review 198; Rainer Hinrichs-Rahlwes 'The European climate and energy package for 2020' in Rainer Hinrichs-Rahlwes, Sustainable Energy Policies for Europe: Towards 100% Renewable Energy (Series: Sustainable Energy Development, vol 6, Jochen Bundschuh ed, CRP Press 2013) 30, 70; IRENA, 'Renewable Energy Auctions in Developing Countries' (2013) <https://www.irena.org/publications/2013/Jun/Renewable-Energy-Auctions-in-Developing-Countries> accessed 2 November 2018; Shahrouz Abolhosseini and Almas Heshmati, 'The Main Support Mechanism to Finance Renewable Energy Development' (IZA Discussion Paper 8182, 2014) 14; CEER, 'Key support elements of RES in Europe: moving towards market integration' (Report C15-SDE-49-03, CEER 2016) 41; IRENA, 'Renewable Energy Auctions: Analysing 2016' (2017) <https://www.irena.org/publications/2017/Jun/Renewable-Energy-Auctions-Analysing-2016> accessed 2 November 2018.

[44] Ministry of Economic Development, 'National Renewable Energy Action Plan of the Republic of Kosovo 2011-2020: Update 2018-2020' (draft NREAP published for public consultation in August 2018) 18 < http://konsultimet.rks-gov.net/viewConsult.php?ConsultationID=40428> accessed 20 January 2019

project developers with information, the Government of Kosovo since 2015 has rendered a decision to create One-Stop Shop, however, only in 2018 the Government managed to approve a Regulation, yet this institution is still not functional.[45]

Below are presented the results deriving from the research with the business community with respect to their experience and problems they faced with national institutions, when acquiring all the necessary permits in order to be able to legally construct RES generating capacities.

3.2.1 Results from the research with the business community: regulatory barriers

In the conducted research, inter alia, the business community was asked to provide its insight with respect to its experience with ERO during the authorization procedure (preliminary and final authorization); potential problems with national institutions in obtaining all the required permits; potential problems with the Power Purchase Agreement (PPA) signed between the corporations and the Market Operator and; problems with connection to the grid and priority dispatch.

With respect to ERO, the overwhelming majority of corporations have stated that this institution has acted in a transparent, non-discriminatory manner and within deadlines when assessing the request for preliminary and/or final authorization. In addition, the business community has stated that ERO's staff is very professional and cooperative and quoting one business representative *'I am proud to have such an institution in Kosovo'*. However, it must be pointed out that huge delays were reported during the timeframe when ERO's board was incomplete, which negatively affected the projects that were awaiting authorization. Another concern which is indirectly related with the procedures observed and implemented by ERO, has to do with certain corporations which after having received the final authorization, sell their companies, which means that they also sell the authorization rights to construct new RES generating capacities, resulting many times in the possible lack of all the necessary resources from the new

[45] Government of Kosovo, Regulation (GRK) No. 05/2018 on One Stop Shop for Renewable Energy Sources (2018) < http://kryeministri-ks.net/wp-content/uploads/2018/04/RREGULLORE-QRK-NR.-05-2018-P%C3%8BR-ONE-STOP-SHOP-P%C3%8BR-BURIMET-E-RIP%C3%8BRT%C3%8BRISHME-T%C3%8B-ENERGJIS%C3%8B.pdf> accessed 30 November 2018.

owners, to run such projects (meaning technical and human resources which all companies have to fulfill in order to get the preliminary and final authorization).[46]

While ERO in majority is highly valued by the business community, there are many problems reported with Ministry of Environment and Spatial Planning (MESP), municipalities and the Distribution System Operator (DSO). First of all, the business community has raised its concern with respect to the lack of harmonization of the legal framework affecting RES projects. For instance, they have pointed out that whereas the PPA guarantees them a purchase price set in accordance with the feed-in tariff and for a set duration of 10-12 years, the public property lease permits that are needed in order to construct their renewable energy projects have a shorter duration, which creates uncertainty among investors. Likewise, they have pointed out that in order to acquire the final authorization, one needs to acquire numerous permits at different institutions, without having one channel of communication and coordination. Moreover, many business representatives have emphasized that there are many delays incurred at MESP in acquiring the environmental permit, which sometimes might even take over six (6) months. Furthermore, it was reported that many problems faced with MESP arise due to different interests, like political or even ethnic, for instance, special groups of interest complaining against certain RES projects, just based on the fact that the corporations which will build those projects are not local. Equally important, the business community reported to have continuously experienced enormous problems with different municipalities due to lack of cooperation, lack of expertise by municipal staff with regards to energy sector and lack of professionalism in general. In addition, some have raised their concerns regarding the wide competences of mayors on deciding on local investments. [47]

With regard to KOSTT which is the market operator and the national Transmission System Operator, the majority of the corporations value this institution as very efficient. However, a slight problem which may occur between corporations and the market operator is the terms of

[46] Communication with representatives of the renewable energy business community in Kosovo (8-31 January 2019).
[47] ibid.

the PPA. The majority of businesses have reported that they were not able to negotiate any of the terms of the PPA as this agreement is a sample already developed and approved by ERO. In some occasions when the businesses did not accept prima facie this agreement, they found problems with metering point, the guarantees and the imbalance costs. In connection to this, some businesses have reported that even the World Bank and the European Bank for Reconstruction and Development have recommended not to sign the PPA with the current terms.[48]

Lastly but very important, all the businesses which need to access the distribution network grid have declared that they have faced tremendous problems with the KEDS. The reported problems vary however in majority all reported KEDS unreliability and lack of willingness to give access for connection to the grid. In some occasions, the business community has reported that KEDS has pushed certain corporations to go and get connected through TSO, while the most appropriate connection in technical and economic terms was to access the distribution network directly. The business community has reported that KEDS had already agreed to provide access to the network for certain projects, with a limited validity of such agreement, however, until the corporations acquired the final authorizations from ERO, that agreement expired and KEDS refused to extend its consent for connection to its network. More specifically, corporations have stated that KEDS maintains unfavorable policies towards RES. That is, KEDS requires all new generators to be connected to substations, without taking into account their installed capacity, and requests them to construct overhead lines (amounting to km in distance) without taking into account technical and commercial losses. It is further explained that KEDS requests all these investments as after the construction it takes ownership and presents them as its own investment, without actually having invested in the infrastructure. Moreover, there are corporations which have declared that the investment costs for connection to the network are very high. [49]

[48] ibid.
[49] ibid.

With respect to the feed-in tariff and the right to priority dispatch, all the corporations that currently have projects in operation have stated that they receive the feed-in tariff in a timely manner and their right to priority dispatch is respected.[50]

With regards to the One Stop Shop for RES, despite the fact that such institution has been legally established via secondarily legislative acts, the business community was either not aware of its establishment or has declared that it is not yet functional, hence they have not yet received any services from it.[51]

In the next sub-chapter, the author will present the current situation of the prosumers in Kosovo.

3.3 Renewable Energy Self-consumption

According to the Secretariat of the Energy Community, Kosovo should adopt rules on RE self-consumption for on-site generation, to allow final consumers to become producers or otherwise known as prosumers.[52] With respect to renewable energy self-consumption, it must be noted that the Rules of ERO do refer to this category however in a limited manner. For instance, with regards to authorization procedures for constructing new generation capacities, Art 43.4 of the Law on Energy Regulator stipulates that ERO has to adopt rules for small decentralized and/or distributed generation.[53]

In ERO's Rule on Authorization Procedure for Construction of New Generation Capacities from Renewable Energy Sources, Article 3, subparagraph 1.16 defines self-consumption generators as *"generating consumers who can offer the generated energy to the power network for future*

[50] ibid.
[51] Ibid.
[52] Energy Community Secretariat, 'Annual Implementation Report' (2018) 1, 89, <https://www.energy-community.org/implementation/IR2018.html> accessed 15 January 2019.
[53]Assembly of the Republic of Kosovo, Law No. 05/L-084 on the Energy Regulator (2016) <https://gzk.rks-gov.net/ActDetail.aspx?ActID=12694 >

consumption or to pay to the supplier the consumed energy in case of a negative balance.' [54] Another rule of ERO which is specific to support schemes provided to RES-E generators, has two definitions provided for self-consumption generators:

> **Prosumer** - is an electricity customer who is at same time and at the same site the owner of a Micro RES generating facility, connected to the grid and having right to selfconsume the generated electricity as well as to deliver the excess of generated electricity to the supplier;
>
> **Self-consumption Generators** - are the Prosumers who are able to feed excess electricity generation to the grid for future consumption or pay to the supplier the electricity consumed in case of a negative Balance[55]

The definitions or lack of proper definition poses challenges with respect to this category of consumers. Hence, it is crucial for ERO to adopt one single however encompassing definition for categories of final consumers who would be able to produce, consume, store and sell their electric energy.

In line with this it must be noted that the definitions about self-consumption and categories of prosumers are not homogeneous even among the EU Member States. However, probably the most appropriate definitions that have been consulted this far, are those of the International Energy Agency (IEA) which categorize installations of below and equal to 10kW as residential prosumers; installations of over 10kW and below 250kW as commercial prosumers and; installations over 250kW as industrial prosumers.[56]

As Kosovo's legislation currently stands, the right to be recognized as prosumer, is provided only for consumers who own small RES generating technologies with a capacity of smaller or equal to

[54] Please note that the English version of the rule instead of using generating/producing consumers uses generating generators which is a mistake as the term consumer is crucial in this aspect. The Albanian version of the Rule has the correct term 'generating/producing consumers'.

[55] Energy Regulatory Office, ERO/Rule No.10/2017 on Support Scheme for Renewable Energy Sources Generators [2017] <http://ero-ks.org/2017/Rregullat/Rule%20on%20Support%20Scheme_2017.pdf > accessed 3 November 2018.

[56] GfK Belgium consortium, "Residential Prosumers in the European Energy Union" (2017) 1, 19 <https://ec.europa.eu/commission/sites/beta-political/files/study-residential-prosumers-energy-union_en.pdf > accessed 1 January 2019.

100 kW. Hence, in such a category only residential consumers and small commercial consumers are included, excluding large commercial consumers and industries.

It is worth pointing out that by the 2nd of February 2019, in ERO's database of applications for authorization for self-consumptions generators there were only three (3) companies which were given approval for generators for self-consumption and three (3) additional companies which are in process of receiving authorization. All six (6) companies have applied for authorization for solar technologies with capacity ranging between 4.88W to 100kW.[57] These data show that there is not even one residential consumer who has applied for the status of prosumer. According to a study conducted in Kosovo, *"[t]he total capacity of PV solar panels that were installed from 2014 to 2017 was 4,519.8 kW (608 kW are part of the FIT, two projects installed in 2015 and 2016 with a capacity of 102 kW and 506 kW respectively)."*[58] Based on the data provided by the same source, from the total installed capacity of 4,519.8 kW for 2014-2017, household sector installed 602.55 kW of PV solar panel capacity.[59]

On the one hand, the data provided above demonstrate that there is 602.55kW installed capacity by household sector only for PV technologies, however, on of the other hand none of the residential consumers has actually applied for authorization to ERO and hence do not formally have the status of prosumer in order to benefit from the support scheme currently in place for prosumers.

With respect to the procedure of acquiring the authorization for constructing generators for self-consumption, a physical or legal person has to submit a written request to ERO together with the following evidence: *"Evidence from KEDS on annual energy consumption; Evaluation on annual*

[57] Energy Regulatory Office, 'Applicants' Register for Generation for Self Consumption' (updated February 2019) < http://ero-ks.org/2019/Autorizimet_Licencat/Regjistri%20i%20Aplikacioneve%20per%20gjeneratoret%20per%20VET%20_KONSUM_01_02_2019.pdf> accessed 2 February 2019.

[58] Flamur Breznica, 'Assessment of Private Sector Energy Clusters' (2018) 1, 26 <http://empowerkosovo.org/wp-content/uploads/2015/04/ASSESSMENT-OF-PRIVATE-SECTOR-ENERGY-CLUSTERS_ENGLISH.pdf> accessed 1 January 2019.

[59] ibid.

kWh production of installed equipment; Consent for connection to the grid, issued by KEDS; and Consent from the relevant municipality."[60]

After having acquired the abovementioned evidence, any consumer can apply to its electric power supplier in order to get the status of the prosumer. The supplier within ten (10) working days after receiving the application has to inform the DSO, in this occasion KEDS. KEDS has ten (10) working days after receiving the notification, and within this period it needs to issue the terms of connection, including the necessary terms of connection which require the prosumer's compliance. [61] In addition, ERO's rule requires the DSO to undertake any necessary legislative changes in compliance with this Rule. [62] However, no such legislation, is available online and thus cannot be accessed by the consumer.[63] Furthermore, there is no information on the entire web site of the DSO on how a consumer can have access to the relevant procedure applicable to prosumers. There is always the option to appear in person at the offices of the DSO, however, all the rules and procedures should be available online as they are public documents, in the interest of the public, and hence transparency should be observed.

With regards to the support schemes that the prosumers are entitled to, Kosovo provides for net metering which obliges the supplier of electricity to offtake all the excess electricity of the prosumers and deliver to the latter all the consumed electricity within a billing period which in Kosovo is done monthly. If the prosumer injects to the grid more energy that it consumes, then it is credited in energy (kWh) on the following month. However, if by the end of the last month

[60] Energy Regulatory Office, Rule on Authorization Procedure for Construction of new Generation Capacities from Renewable Energy Sources, (2017) art 25.2 <http://ero-ks.org/2017/Rregullat/Rule%20on%20Authorization%20Procedure%20for%20Construction%20of%20New%20Generation%20Capacities%20from%20RES.pdf> accessed 1 January 2019.

[61] Energy Regulatory Office, ERO/Rule No.10/2017 on Support Scheme for Renewable Energy Sources Generators [2017] art 20.1-20.4 <http://ero-ks.org/2017/Rregullat/Rule%20on%20Support%20Scheme_2017.pdf > accessed 3 November 2018.

[62] Energy Regulatory Office, ERO/Rule No.10/2017 on Support Scheme for Renewable Energy Sources Generators [2017] art 20.5 <http://ero-ks.org/2017/Rregullat/Rule%20on%20Support%20Scheme_2017.pdf > accessed 3 November 2018.

[63] The author tried to access the rules and codes section in the website of KEDS in order to check the connection rules, and it was not available.

of a year a prosumer has a positive balance, the supplier does not have an obligation to either transfer it to the next year or compensate for the positive balance, as the balance is rest to zero (0 kWh). Likewise, if a prosumer consumes more than it injects to the grid, then it has an obligation to pay to the supplier for the negative balance. The negative balance is calculated by allocating it between the peak and off-peak period in accordance with the actual monthly consumption of the prosumer during that month. The supplier, has a legal obligation to enter into a Prosumer Agreement with any of its clients to whom they supply electric power.[64] When we discuss about the peak and off peak hours in Kosovo, it must be noted that for final consumers, there is the high tariff/charge which is applied during the day time from 07:00 to 22:00 (starting from 1st of October to 31st of March) and from 08:00 until 23:00 (starting from 1st of April until 30th of September) and the lower tariff/charge which is applied either from 22:00 to 07:00 or 23:00 to 08:00 according to the monthly period mentioned above.[65] To simplify it, peak hours (day tariff) in Kosovo constitute fifteen (15) hours per day, from early morning until almost midnight and off peak hours (night tariff) make up nine (9) remaining hours.

It must be noted that even within the EU there is a lack of harmonized support measures which are provided to the prosumers. For instance, a thorough study assessing all the measures of the Member States with regards to residential prosumers, has identified different mechanisms used like Feed-in tariffs, premiums, net metering or net balancing, VAT reductions, capital subsidies, loans and other forms of investment support.[66] On a working document on the best practices on self-consumption, the Commission recommends that self-consumption is supported via market oriented mechanisms, meaning the injected electricity into the grid to be compensated at the wholesale market price and to limit the use of net metering only during the phase-in periods.[67]

[64] Energy Regulatory Office, ERO/Rule No.10/2017 on Support Scheme for Renewable Energy Sources Generators [2017] art 18,19 <http://ero-ks.org/2017/Rregullat/Rule%20on%20Support%20Scheme_2017.pdf > accessed 3 November 2018.
[65] Energy Regulatory Office, 'ERO Code: V_1065_2018 on electricity retail tariffs', (2018) < http://ero-ks.org/2018/Vendimet/V_1065_2018_eng.pdf> accessed 10 December 2018.
[66] GfK Belgium consortium, "Residential Prosumers in the European Energy Union" (2017) 1, 65-66 <https://ec.europa.eu/commission/sites/beta-political/files/study-residential-prosumers-energy-union_en.pdf > accessed 1 January 2019.
[67] Commission, Best practices on Renewable Energy Self-consumption (Staff working document) COM (2015) 339 final, 12.

However, even though the Commission states that remuneration for the excess electricity injected into the grid appears to be 'an economically attractive scheme' yet when it comes to residential consumers it lacks certainty whether this option will negatively impact the financial viability of self-consumption systems.[68] The concerns that usually arise with respect to net-metering, focus mainly on the fact that prosumers use the grid as a storage facility for free and that other consumers who do not have a distributed generation bear the avoided grid costs and other taxes of the prosumers. Likewise, it is pointed out that net-metering negatively impacts the demand-side management as there is no incentive for prosumers to either maximize their self-consumption or adjust the time of use of electricity, as long as they are compensated based on the retail price of electricity.[69]

Prior to concluding as to how prosumers should be supported in Kosovo, it is of paramount importance for the relevant institutions of the country, to establish a clear legislative framework for this category of consumer. In addition, prosumers should be categorized into different categories, whereby different but transparent criteria may be applied, be it with respect to authorization requirements or support schemes. Likewise, Kosovo needs to recognize the right of the prosumer beside consuming and injecting the electricity to the grid also to store the produced electricity. Moreover, it is crucial for the information to be easily accessible and simple as to allow for any consumer to have the necessary information. Furthermore, in compliance with the new renewable energy directive for the period up to 2030, Kosovo should adjust its legislation and include joint projects of prosumers, for instance when they live in the same building, and also the energy communities.[70] As a principle rule, the prosumers should not be charged for the

[68] ibid 11.

[69] Energy Community Secretariat, 'Policy Guidelines by the Energy Community Secretariat on the Grid Integration of Prosumer' (2018), 5. The literature on net-metering is well develop, including for markets like the US where net-metering has been used for years and there is an established long experience which can be taken into account for less mature markets. Please see some recommended articles, Jackson Salovaara, 'Just and Reasonable Rooftop Solar: A Proposal for Net Metering Reform' (2016) 7 Ariz. J. Envtl. L. & Pol'y [i]; Steven Ferrey, 'Torquing the Levers of International Power' (2016) 15 Wash. U. Global Stud. L. Rev. 255; Richard L. Revesz and Burcin Unel, 'Managing the Future of the Electricity Grid' (2017) 41 Harv. Envtl. L. Rev. 43; Steven Ferrey, 'The Poles of Power: Magnetic Bi-Directional Turn of the Meter'(2017) 8 Geo. Wash. J. Energy & Envtl. L. 39; Richard L. Revesz and Burcin Unel, 'Managing the Future of the Electricity Grid: Energy Storage and Greenhouse Gas Emissions'(2018) 42 Harv. Envtl. L. Rev.

[70] Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast) [2018] OJ L328/82, art 2.14.

electricity that they produce, store and consume within their own premises. With respect to the currently used net-metering, it must be noted that there are currently only three (3) companies which have been approved to construct micro RES generating systems for self-consumption. Hence the current situation of distributed generators can be regarded as a phase-in period. Regardless of that, should any legislative changes take place, beside the cost of investment and a return on investment, environmental benefits, reduced or delayed grid investment and RES policy targets should be taken into account.

3.3.1 Results from the research with the business community: prosumers

At this particular point, it must be pointed out that the findings of the research study conducted by the researcher with the business community show that companies which sell solar panels do not inform the household sector that they can benefit from the support schemes as prosumers. When certain companies were asked if they inform the household sector and if they are aware of any residential consumer benefiting from net metering, the answers provided were that their target is the commercial and industrial prosumer and that such categories already benefit from the status of prosumers.[71]

The chapter below discusses about the financial barriers that business community encounters and funding options that exists for RES projects in Kosovo.

4. Financing of RES projects in Kosovo

Below one can find the current problems faced by the business community and an insight from a finance expert with respect to financing opportunities and barriers to receive funding for RES projects.

[71] Email from the business representatives to author (14 January 2019).

4.1 Results from the research with the business community: financial barriers for RES projects

With regards to this section, there were three research questions asked: 1) How did a corporation finance its RES project(s); 2) Are there any problems that RES projects face with respect to acquiring funds due to polices and legislation of Kosovo and; 3) Is there any issue which Kosovo's institutions can work on, in order to establish a stronger investor confidence?

The majority of the business representatives have stated that their RES projects were financed through their owners' equity and in some occasion through loans. The percentage of total investment which was acquired through loans provided by local commercial banks ranges between 30 to 35 %. To illustrate one example, a company used approximately EUR 4.7 million of equity (70%) and EUR 2 million (30 %) through loans provided by commercial banks. In one case, a corporation financed its projects through private equity and international financial institutions. In majority, the business community has stated that the local commercial banks are unwilling to provide loans for RES projects. In addition, it was pointed out that in case of subsidiaries, the parent company needs to have a considerable amount of equity in order for the former to be able to acquire loans. Likewise, it was pointed out that the commercial banks require a huge amount of collateral which can amount to over 200% of the amount of loan provide. As such the business community has stated that those corporations that have managed to receive loans are engulfed as all their assets are used as collateral hence they cannot further develop or make any further investments. Moreover, it was pointed that the interest rates are very high amounting to 8% or higher.[72]

The business community in majority has claimed that with respect to financing its RES projects they deal with unfavourable loan terms; high interest rates; lack of investment loans and lack of guarantee funds. In addition, it has been pointed out that there is a lack of mechanism to stimulate, guarantee or oblige the commercial banks to finance RES projects, hence, it remains

[72] Communication with representatives of the renewable energy business community in Kosovo (8-31 January 2019).

on the will and desire of the commercial banks to accept or decline the request for loans and to impose any terms they see fit.[73]

The business community has further pointed out one of the problems directly linked with funding restrains is the PPA, more specifically the terms for guarantees and imbalance costs. In connection to this, it was emphasized that both the Wold Bank and EBRD have expressed their concerns about those two terms of PPA. With respect to EBRD, it is important to point out that the business community has emphasised the fact that besides EBRD's public supporting stance for RES projects, this institution was not willing to support any such projects, even though businesses have presented specific and feasible projects. Likewise, it was pointed out that, in their opinion, high level of corruption negatively impacts the investors' confidence and there is a need to improve the general image of the country as a favourable place for investment. In addition, it has been mentioned that a non-harmonized legal framework negatively impacts projects in acquiring funds, specifically referring to different duration of permits for usage of public property.

Lastly, with respect to the possibility of introducing tenders/auctions for new RES projects, those few representatives who had an answer to this question, are fully against this option, as they fear it will lead to corruption, there will be problems with design and structure, and it will negatively impact the local market, hence projects will stagnate and it will open the path for penetration of big companies from China and India. [74]

Having presented the problems faced by the business community, below one can read about the stance of finance experts about funding opportunities for RES projects in Kosovo and barriers that currently exist.

[73] ibid.
[74] ibid.

4.2 Results from the research with the financial sector

In order to present as subjectively as possible the current financing situation in Kosovo, key problems faced by the business community were pointed out to the finance expert, who was asked to elaborate on them from the viewpoint of the finance sector.

With respect to existence of financing schemes, the answer received was that there are a couple of banks which have financed RES projects and are interested in doing more.

With regard to the high interest rates and the large collateral, it was point out that:

> The interest rate has to include the cost of funds, operations, risk and profit. RES projects are inherently long term. That makes it difficult for banks to lend to RES projects from deposits which are mostly short term in Kosovo. There is very little long term funds available for Kosovo banks to borrow, and in some cases the cost of funds is relatively high. Kosovo does not have a credit rating. The commercial departments of the basic courts do not have enough judges and have no clerks, so contract enforcement can be very slow and in some cases inadequate. The political situation is somewhat fragile. There are concerns about the Kosovo-Serbia unresolved issues. So the cost of funds can be high and the risk is very high. 8% interest rate is not high considering the context and conditions.
>
> In some cases, the RES developer has not created a Special Purpose Vehicle (SPV, separate company) to undertake the project and instead has mixed it with their other business(es). This makes lending to the project much more complicated and much more difficult to enforce against and much riskier. All RES projects should be put into an SPV.
>
> The RES developer should have sufficient “equity” in the project. This is true anywhere in the world. An RES project in Kosovo is not the same as a café bar or a pepper processing plant. RES projects are both bigger, longer term and riskier. RES developers sometimes underestimate the risk and the requirements of RES projects, including permitting, construction, environmental compliance, grid connection, etc., and underestimate the requirement to have sufficient equity to make the project financially viable. The land, equipment, etc., should serve as the

> collateral/equity, but it also has to be taken into account that most of the developers have low experience or internal expertise in RES.[75]

With respect to the refusal of ERBD to finance specific RES projects and the lack of financial support from other institutions, the following was noted:

> Just because a developer has a "project", doesn't mean it's a viable project, is properly documented, or is financially feasible. Some projects don't have complete or adequate documentation. Some have not fully taken location into account relative to getting a cost-effective connection to the grid. Some overestimate the value and financeability of their project.
>
> Another problem is that many developers automatically went to a 3 MW size. In some locations, 3 MW is technically difficult to integrate into the grid. It would have been good for there to be a larger number of smaller projects, such as 250 kW or 500 kW. Much easier to finance and much easier to integrate into the grid. EBRD and IFC want to finance projects, but they have to be viable, financeable, documented, etc.
>
> Banks are starting to lend to RES projects. But as mentioned above, it is difficult to lend to RES projects from deposits because of the maturity mismatches, and other funds for longer term lending are limited and at high cost. Further the banks in Kosovo are not very experienced in project finance. It is being explored to develop a program for training and capacity building in project finance and energy finance. But they are starting to lend to such projects. Further, the quality and completeness of RES projects presented by the developers are sometimes not fully adequate. It is also being explored to provide training and capacity building to RES developers and also local experts to improve the quality of the projects presented for financing. However, some projects that have been properly prepared and documented (usually with outside experts' help) have gotten financing.[76]

[75] Email from the from the finance expert to author (7 February 2019).
[76] ibid.

With regards to the requirements to acquire a loan or grant for RES project, the following has been noted as mandatory requirements, “Proper sitting for cost effective integration into the grid; Proper financial analysis and financial projections; Proper licensing and permitting; SPV; Good management; Sufficient equity/collateral; Environment studies and compliance; PPA”. [77]

With respect to the role of PPA in acquiring funds, the finance expert has clarified, that this agreement is not a guarantee of financing but a ‘must-have’ document in lack of which no financing is provided. The finance expert is of the opinion that PPA should not be backed by government guarantees, even though there has been a request by a finance institution to include an equivalent of government guarantee to the PPA. According to the expert, guarantees could be requested for extremely large projects amounting to tens or hundreds of millions, as among others, these guarantees have to be approved by two thirds of the Assembly. As such, the projects would be delayed and the process could politicize, leading to lending only for politically connected developers. Likewise, the expert is of the opinion that the current PPA is of international standards and it allows the lender to “step in” in the event that the IPP defaults on the loan. The lender can step in, take over the IPP and install new management.[78]

With regards to future national measures which can assist the business community with better access to financing their RES projects, the finance expert has pointed that the government is currently planning on switching some of hydro quotas (not enough water) to solar PV. However, the new solar PV quotas most likely will be supported through market price/auction. More specifically the expert has stated:

> The government and ERO have to work out the details for the pricing model and procurement model for the new solar quotas. Developers need that in order to analyze future projects and decide whether to proceed. And lenders will need to

[77] ibid.
[78] ibid.

know that to determine the financeability of the projects. So the ERO should try to put that in place as soon as possible.

Once an RES project is licensed and has a PPA, that project should be protected from future tariff changes or legislative changes for the life of the PPA. This will greatly facilitate finance for RES projects because it greatly reduces the risk.[79]

Having presented the results from both the finance sector and the business community, the research will present below a discussion on the findings of the research undertaking and the concluding remarks.

5. Discussion on findings and recommendations

This dissertation was undertaken in order to answer the following questions:

1) How is Kosovo promoting the deployment of RES into the market and what else can be done?

2) What are the regulatory barriers to RES penetration and deployment into the market?

3) What are the financial barriers to RES penetration and deployment into the market?

With regard to the first question, even though Kosovo has national binding RES targets and in 2016 it has declared that it's on trajectory with the set targets, yet it falls behind its trajectory for RES-E and RES-T. Over 93% of electricity in 2019 is assessed to derive from lignite power plants. The current share of RES-T equals zero and only RES-H is achieved based on the use of wood biomass, however no actual investment or policies exist for promotion of other means like heat pumps, solar collectors for hot water and high-efficient biomass boiler and stoves. In addition, there is no visionary policy for sector coupling, whereby RES-E could contribute in heating & cooling and transport sectors. Furthermore, the quotas set for RES-E technologies which are eligible for support schemes are very low, specifically for solar and wind technologies and the potential generating capacity from these technologies is higher as shown by the number of projects awaiting admission to the support schemes.

[79] ibid.

Kosovo needs to set a new RES target for 2030 between 35-40% and adopt ambitious green policies rather than supporting lignite projects which run counter to the global policies and aims of an energy transition towards renewables and energy efficiency. Overall, it can be concluded that Kosovo lacks the political will to fully embrace renewables and all its progress in this field is only due to the its obligations as part of the Energy Community and not due to a visionary strategy to shift its energy sector.

In relation to the second question with regards to the regulatory barriers, Kosovo must harmonize its legal acts which directly affect RES projects, especially those dealing with public property lease agreements/permits so that the duration of different permits is consistent with one another. In addition, the One-Stop-Shop must become functional as it has been years that the need for it has been emphasized. Likewise, even though the results of the research with the business community revealed that, in general, there are no major problems with ERO and the market operator/TSO, yet, there are major problems with different municipalities and Ministries. Hence, it is important to have common guidelines and training for different personnel on how to treat, assess and assist RES projects. In connection to different barriers, the majority of the hurdles were reported to come from the DSO which refuses to give to RES projects access to the grid, by withdrawing its consent for grid connection, requesting unnecessary deep investments and in general having unfavorable policies towards RES. It is of paramount importance for ERO and the relevant institutions to assess the current problems that RES projects face with the DSO and to request from this already privatized corporation, to act in accordance with the technical codes and to eliminate unnecessary requests.

In general, it has to be pointed that even though ERO on its Rules provides the right for self-consumption and right to construct new small RES generating capacities, this information is not well communicated to the public, especially to the household sector. That is, even though a household prosumer needs to submit and acquire the majority of evidence from KEDS, the DSO does not provide any information which can be easily accessed by the consumers. If one checks its webpage, in the tab where consumer services are provided there is nothing regarding prosumers. Having in mind that the right to self-consumption is a recognized right, the factual

situation shows that there is little to no initiative in promotion of production and consumption of electricity derived from RES. Likewise, in order to be able to get the information on the rights and obligations of prosumers, one has to either be a lawyer (meaning to know which legal acts are applicable and how to interpret the legal provisions) or a professional who deals with energy sector. As such, this is a barrier to a random household consumer who is not necessarily aware and knowledgeable about the energy sector and all the administrative processes which take place in order to become a recognized prosumer. Therefore, when it comes to promotion of RES, especially for the household sector, it cannot be established that the relevant institutions of Kosovo have undertaken all the necessary steps in order to share and make available information and thus empower consumers to become prosumers, an aim of the EU which Kosovo should enforce as part of the Energy Community.

Another interesting observation was derived from the research with the business community. There is a lack of mobilization and sometimes a lack of knowledge which prevents businesses from lobbying for their own interests and from providing recommendations to policy changes. This matter is further emphasized by the existence, but the non-functionality of Renewable Energy Association in Kosovo. Despite this issue, renewable energy community is gaining experience on the field and public discussion for future policy changes must be requested by them, including discussion on the PPAs, creation of credit guarantee fund for financing RES projects, and future support mechanisms.

Lastly with regards to the third question, the results showed that obvious difficulties exist in financing RES projects, such as, high interest rates and large collateral, lack of project finance and limited capacity in dealing with energy finance. Kosovo government can contribute in this aspect by adopting and maintain a stable environment and creating favorable RES policies which provide certainty to both developers and lenders. Likewise, the Kosovo Credit Guarantee Fund which currently supports MSMEs should expand its loan guarantees to include RES projects.

With regards to the businesses, they should invest in proper planning and establish separate companies or subsidiary which deal only with energy sector and seek professional advice in completion of all the necessary documentation to be submitted to the finance institutions.

Likewise, the international finance institutions like EBRD should play a more proactive role which goes beyond media promotion of RES projects and actually support well-developed projects.

6. Conclusion

In this dissertation the researcher assessed the current situation of RES in Kosovo, focusing on regulatory and financial barriers. In order to profoundly understand the barriers faced by RES, a research study was conducted with the business community operating RES projects in Kosovo. The findings of the research reveal that there is a political unwillingness to fully embrace renewable energy sources, which is proved by lack of investment in RES-E and RES-E. Kosovo is on track of achieving its RES target, however that is mainly due RES-C&H whereby wood biomass contributes at large. A number of regulatory barriers were identified related to lack of legal framework harmonization, lack of promotion of prosumers and not favorable RES policies by national institutions and the Distribution System Operator. Likewise, there are many struggles with acquiring funds for constructing RES projects, which pose further hurdles to RES penetration into the market. Stable and favorable RES policy coupled with a credit guarantee fund can assist with easier accesses to finance for RES projects.

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Appendix I: Questionnaire for the business community (English language)

ACADEMIC RESEARCH

"Renewable Energy in the Republic of Kosovo: Regulatory and Financial Obstacles to RES penetration and deployment in the market"

QUESTIONNARIE

Name and Surname:

Position:

Company:

Date:

1) Has the Energy Regulatory Office (ERO) acted in a transparent, non-discriminatory manner and within deadlines when assessing your request for preliminary and/or final authorization? (If no- please elaborate a bit)

2) Have you faced any problems with other national institutions in order to acquire all the required permits? (If yes- what problems and with which institutions)

3) Have you faced any problems with the Market Operator with respect to Power Purchase Agreements (PPA)? (If yes- what problems)

4) Were you able to negotiate any terms of the PPA? If no- What is the reason (example: the PPA is fixed by ERO and cannot be changed)? If yes- which specific terms?

5) Have you faced any problems with respect to your right to priority access and priority dispatch? (If yes- Please specify)

6) Have you faced any problems with acquiring the agreement for connection to network, either via KEDS or KOSTT (depending on the voltage level)? (If yes- Please specify)

7) Have you faced any problems with receiving the feed-in tariff and was it paid in a timely manner? (If problems occurred- Please specify)

8) How did you finance your RES project(s) in Kosovo? (example: shareholder's money; loans; guarantee funds; and alike)

9) Are there any problems that RES project developers/operators face with respect to acquiring funds due to policies and legislation of Kosovo? (If yes- please specify)

10) Is the 25 % RES target aimed by Kosovo by 2020 enough and what target can Kosovo aim for by 2030?

11) Do you believe that electrification of the transport sector in Kosovo would be a doable aim for the next 10-20 years? Can power coming from wind, solar and hydro technologies contribute to such an aim?

12) Is there any particular legal and regulatory gap which you have encountered and believe to prevent further deployment of RES in the market?

13) Would you point out any matter which needs to be taken into account when announcing tenders/bids for RES projects?

14) Is there any issue which Kosovo's institutions can work on in order to establish a stronger investor confidence?

15) Have you requested to be issued a Certificate of Origin? (If yes- Have you faced any problems during the process?)

16) Have you already utilized the services of the newly created One-Stop-Shop (if yes- How would you rate its services?)

Appendix 2: Questionnaire for the business community (Albanian language)

Hulumtim akademik

"Energjia e ripërtrishme në Kosovë: barrierat rregullative dhe financiare për futjen dhe shtrirjen e burimeve të ripërtrishme të energjisë në treg"

Pyetësor

Emri dhe mbiemri:

Pozita:

Shoqëria tregtare:

Data:

1) A ka vepruar Zyra e Rregullatorit të Energjisë (ZRRE) në mënyrë transparente, jo-diskriminuese dhe brenda afateve gjatë vlerësimit të kërkesës suaj për autorizim preliminar dhe/apo final? (Nëse jo- ju lutem elaboroni)

2) A keni hasur në ndonjë problem me ndonjë institucion shtetëror gjatë marrjes së lejeve të nevojshme për ndërtim të kapaciteteve gjeneruese? (Nëse po- çfarë probleme dhe nga cilat institucione)

3) A keni hasur në ndonjë problem me Operatorin e Tregut sa i përket Marrëveshjes për Blerjen e Energjisë Elektrike? (Nëse po- çfarë probleme)

4) A keni pasur mundësi të negocioni ndonjë nga kushtet e Marrëveshjes për Blerjen e Energjisë Elekrike? (Nëse jo- Cila është arsyeja? Shembull: Marrëveshja është e rregullar nga ZRRE dhe nuk mund të ndryshohet; Nëse po- Cilat kushte i keni negociuar?

5) A keni hasur në ndonjë problem sa i përket të drejtës suaj për prioritet në çasje dhe dispeçim? (Nëse po- ju lutem specifikoni)

6) A keni hasur në ndonjë problem në arritjen e marrëveshjes për kyçje në rrjet, përmes KEDS-it apo KOSTT-it (varësisht prej nivelit të tensionit)? (Nëse po- ju lutem specifikoni)

7) A keni hasur në ndonjë problem në marrjen e tarifës nxitëse (feed-in tariff) dhe a ju është dhënë tarifa në kohë? (Nëse keni hasur në probleme- ju lutem specifikoni)
8) Si e keni finacuar projektin/projektet tuaj nga burimet e ripërtrishme të energjisë (BRE) në Kosovë? (shembull: nga paratë e pronarëve, huatë, fond garantues, apo instrumente të ngjajshme financiare)

9) A ka ndonjë problem që zhvilluesit/operatorët e projekteve nga BRE hasin gjatë marrjes së fondeve, i cili ndërlidhet me politikën dhe legjislacionin në Kosovë?(Nëse po- ju lutem specifikoni)

10) A është BRE caku prej 25 % deri më 2020 i mjaftueshëm dhe çfarë caku mund të synojë Kosova deri më 2030?

11) A besoni që elekrifikimi i sektorit të trasportit në Kosovë do të ishte një synim i arritshëm për 10-20 vitet e ardhshme? A mundet energjia elektrike e krijuar nga teknologjitë solare, erës dhe ujit të kontribuojë në këtë synim?

12) A ka ndonjë hapësirë specifike ligjore dhe rregullative të cilën e keni hasur dhe që besoni se ka parandaluar shtrirjen e mëtejshme të BRE në treg?

13) Cilat çështje do t'i ceknit si të nevojshme që të mirren parasysh gjatë procedures për shpallje të tenderëve për projektet nga BRE?

14) A ka ndonjë çështje në të cilën institucionet e Kosovës mund të punonin në mënyrë që të ngritet besushmëria e investitorëve?

15) A keni kërkuar që të i'u lëshohet Certifikata e origjinës? (Nëse po- A keni hasur në ndonjë problem gjatë këtij procesi?

16) A keni pasur mundësi të merrni ndonjë shërbim nga One-Stop-Shop i cili është krijuar rishtazi? (Nëse po- Si do ta vlerësonit shërbimin e tij?)

Appendix 3: Consent form to participate in research (English language)

Consent to Participate in an Academic Research Study

Title of Research: "Renewable Energy in the Republic of Kosovo: Regulatory and Financial Obstacles to RES penetration and deployment in the market"

Researcher: Zana Govori, Lawyer, Commercial and Energy Law, Alternative Dispute Resolution, LLM; MSc Candidate in Energy Law, Business, Regulation and Policy, International Hellenic University

You are being asked to participate in an academic research study which seeks to identify the obstacles faced by companies in Kosovo which are either operating Renewable Energy (RE) projects or have received authorization to build new generating capacities from Renewable Energy Sources (RES).
You were selected as a possible participant based on the published database of the Energy Regulatory Office (ERO), which includes all the companies and their projects which are either in operation or have received final or preliminary authorization.
You are kindly asked to read this form and ask any questions that you may have, before agreeing to participate in the research.

Purpose of Study
The purpose of this research study is to assess Kosovo's achievements with respect to RES, with a particular focus on the experience of the business community with regards to the regulatory and financial obstacles. The Secretariat of the Energy Community has published its 2018 Implementation Report and with respect to Kosovo, it has identified some obstacles for RES. In this regard, it is necessary to undertake a research which involves all the participants from the business community in order to have a clear picture of the obstacles and propose policy adjustments.
This research will be conducted as part of the thesis that the researcher will undertake in completion of her MSc in Energy Law, Business, Regulation and Policy.
This research will be published online by the International Hellenic University, in its database. Ultimately, this research may be published in different academic journals and may be presented as a research paper in conferences.

Description of the Study Procedures
If you agree to be in this study, you will be asked to do the following: **a)** disclose your experience with regards to regulatory framework and problems faced during the acquiring phases for authorization to construct RES generating capacities and; **b)** share recommendations which you believe should be adopted by the relevant institutions in Kosovo in order to boost further RES deployment into the market.
If you agree to be in this study, you will participate by filling out one questionnaire, which should take you less than one (1) hour.

You will be provided with a questionnaire in both English and Albanian language. Should you choose to fill out the Albanian version, you have to note that your answers will be translated in English by the researcher, without changing the context or the meaning of your answers.

Risks of Being in this Study
There are no reasonably foreseeable or expected risks.

Benefits of Being in this Study
The benefits of participation are: **a)** you will ensure that your voice and your experience, as one of the business representatives of renewable energy technologies in Kosovo, is heard with respect to obstacles currently faced for RES deployment into the market and; **b)** you will bring forward recommendations which you believe will assist the relevant institutions of Kosovo to correct and readjust their renewable energy policies for the upcoming years.

Confidentiality
This study is anonymous. All the information you provide will be presented without identifying you or your company.
The records of this study will be kept strictly confidential. Research records will be kept in a locked file, and all electronic information will be coded and secured using a password protected file.
The researcher will not include any information in any report she may publish, that would make it possible to identify you.

Right to Refuse or Withdraw
The decision to participate in this research is entirely up to you. You may refuse to take part in the study *at any time* without affecting your relationship with the researcher. Your decision will not result in any loss or benefits to which you are otherwise entitled. You have the right not to answer any single question, as well as to withdraw completely from the research at any point during the process. Additionally, you have the right to request that the researcher not use any of your answers.

Right to Ask Questions
You have the right to ask questions about this research study and to have those questions answered by the researcher before, during or after the research. If you have any further questions about the study, at any time feel free to contact me, at z.govori@ihu.edu.gr or zanagovori@gmail.com or by telephone at 00 30 694 3784256. If you like, a summary of the results of the study will be sent to you.

Consent
Your signature below indicates that you have decided to volunteer as a research participant for this academic research study, and that you have read and understood the information provided above. In addition, your signature below indicates that you have the right to provide all the information requested in the questionnaire, on behalf of the company you represent.

Participant's Full Name and the Representing Company: _____

Participant's Signature: _____ Date: _____
Researcher's Signature: _____ Date: _____

Appendix 4: Consent form to participate in research (Albanian language)

Pëlqim për pjesëmarrje në punim hulumtues

Titulli i hulumtimit: "*Energjia e ripërtrishme në Kosovë: barrierat rregullative dhe financiare për futjen dhe shtrirjen e burimeve të ripërtrishme të energjisë në treg"*

Hulumtuesja: Zana Govori, Juriste, e drejta komerciale dhe e drejta e energjisë; zgjidhja alternative e kontesteve, LLM; kandidat për MSc. e drejta e energjisë, biznesi, rregullimi dhe politika, Univerzitetit Ndërkombëtar Helen

- Ju kërkohet të merrni pjesë në një punim akademik hulumtues përmes të cilit synohet të identifikohen pengesat që shoqëritë tregtare i hasin në Kosovë, për projektet që janë në operim apo kanë marrë autorizime për ndërtim të kapaciteteve të reja gjeneruese nga burimet e ripërtrishme të energjisë.
- Ju jeni zgjedhur si një pjesëmarrës potencial bazuar në databazën/listën e publikuar nga Zyra e Rregullatorit të Energjisë, e cila përfishinë të gjitha shoqëritë tregtare dhe projektet e tyre të cilat janë në operim apo kanë marrë autorizim final apo preliminar.
- Me mirësi, kërkoj nga ju që të lexoni këtë formë dhe të parashroni çfarëdo pyetje që mund të keni para se të pajtoheni që të merrni pjesë në këtë hulumtim.

Qëllimi i punimit

- Qëllimi i këtij punimi është vlerësimi i të arriturave të Kosovës sa i përket energjisë nga burimet e ripërtrishme, me një theks të veçantë në përvojën e komunitetit biznesor rreth pengesave rregullative dhe financiare. Sekretariati i Komunitetit të Energjisë ka publikuar '2018 Raporti i Implementimit' ku janë identifikuar disa ngecje për burimet e ripëtrishme të energjisë në Kosovë. Për këtë arsye, është më se e nevojshme të bëhet një hulumtim i cilin përfshinë komunitetin biznesor në tërësi në mënyrë që të kemi një pasqyrë të pastër të të gjitha pengesave dhe që pastaj të mund të propozohen ndryshime të politikës përkatëse.
- Ky hulumtim do të ndërmirret si pjesë e temës së diplomës të cilën hulumtuesja do e shruan për të përfundar programin e saj në MSc Energy Law, Business, Regulation and Policy.
- Ky hulumtim do të publikohet nga Univerziteti Helen Ndërkombëtar në databazën e tij e cila mund të çaset përmes internetit.
- Njëashtu, ky hulumtim mund të publikohet në revista dhe databaza akademike dhe mund të prezantohet si punim hulumtues gjatë ndonjë konference.

Përshkrim i procedurave të hulumtimit

- Në rast se pajtoheni të jeni pjesë e këtij hulumtimi, nga ju kërkohet që: 1) të shpalosni përvojën tuaj sa i përket kornizës rregullative dhe problemet që keni hasuar gjatë fazave për marrjen e autorizimeve për ndërtim të kapaciteteve gjeneruese nga burimet e ripërtrishme të energjisë dhe; b) të ndani rekomandimet tuaja që ju besoni që duhet të miratohen nga organet zyrtare të Kosovës në mënyrë që rritet mëtutje futja dhe shtrirja në treg e energjisë nga burimet e ripërtrishme.
- Në rast se pajtoheni të jeni pjesë e këtij hulumtimi, ju do të merrni pjesë duke plotësuar një pytësor i cili do ju merr afërsisht një (1) orë kohë.
- Ju do të merrni pytësorin në gjuhën angleze dhe shqipe. Në rast se plotësoni pytësorin në gjuhën shqipe, ju duhet të keni parasysh që përgjigjet tuaja do të përkthehen në anglisht nga hulumtuesja, pa ndryshuar kontekstin apo përmbajtjen e përgjigjeve tuaja.

Rreziqet e pjesëmarrjes në hulumtim

- Nuk ka ndonjë rrezik arsyeshëm të parashikuar apo të pritshëm.

Përfitimet e pjesëmarrjes në këtë hulumtim

- Përfitimet e pjesëmarrjes janë: **a)** ju do të siguroni që zëri juaj dhe përvoja, si një nga përfaqësuesit biznesor të teknologjive nga burimet e ripërtrishme të energjisë, do të dëgjohet sa i përket pengesave që momentalisht i hasni për futjen dhe shtrirjen e burimeve të ripërtrishme të energjisë në treg dhe; **b)** ju do t'i prezantoni të gjitha rekomandimet të cilat ju mendoni që janë të nevojshme për institucionet përkatëse në Kosovë në mënyrë që të korrigjojnë dhe/apo ndryshojnë politikën për energji nga burimet e ripërtrishme e cilat do të reflektoj në vitet e ardhshme.

Konfidencialiteti

- Ky hulumtim është anonim. Të gjitha informatat që ju do t'i paraqitni do të prezantohen pa identifikuar juve apo shoqërinë tuaj tregtare.
- Të dhënat e këtij hulumtimi do të mbahen rreptësisht konfidenciale. Të dhënat do të mbahen në një dosje të mbyllur dhe të dhënat elektronike do të kodohen dhe do të mbrohen duhet përdorur një kod për ruajtje të dosjës.
- Hulumtuesja nuk do të përdorë asnjë informatë në asnjë raport që ajo mund të publikojë dhe i cili do të mund të i'u identifikonte juve.

E drejta për të refuzuar ose tërhequr

- Vendimi për pjesëmarrje në këtë hulumtim është tërësisht i juaji. Ju keni të drejtë të refuzoni të merrni pjesë në këtë hulumtim në çdo kohë pa ndonjë ndikim në raportin tuaj me hulumtuesen. Vedimi juaj nuk do të rezultojë në ndonjë humbje apo përfitim për të cilin ju do të kishit të drejtë në rast të kundërt. Ju keni të drejtë të mos përgjigjeni në cilëndo pyetje, si dhe të tërhiqeni përfundimisht nga hulumtimi në cilëndo kohë gjatë tërë procesit. Njëashtu, ju keni të drejtë të kërkoni nga hulumtuesja që të mos përdorë asnjërën nga përgjigjet tuaj.

E drejta të parashtroni pyetje

- Ju keni të drejtë të parashtroni pyetje rreth hulumtimit dhe të merrni përgjigje nga hulumtuesja para, gjatë dhe pas përfundimit të hulumtimit. Në rast se keni ndonjë pyetje të mëtejshme rreth hulumtimit, ju mund të më kontaktoni përmes z.govori@ihu.edu.gr apo zanagovori@gmail.com apo përmes telefonit 00 30 694 3784256. Nëse keni dëshirë, ju mund të kërkoni një përmbledhje të rezultateve të këtij hulumtimi.

Pëlqimi për pjesëmarrje në hulumtim

- Nënshkrimi juaj mëposhtë nënkupton që ju keni vendosur në mënyrë vullnetare të jeni pjesëmarrës në këtë hulumtim akademik dhe që ju keni lexuar dhe kuptuar informatat që janë paraqitur më lartë. Mëtutje, nënshkrimi juaj nënkupton që ju keni të drejtë të jepni informacionet që kërkohen në pytësor, në emër të shoqërisë tregtare që ju përfaqësoni.

Emri dhe mbiemri i pjesëmarrësit dhe shoqëria tregtare e përfaqësuar: _____

Nënshkrimi i pjesëmarrësit: _____ Data: _____

Nënshkrimi i hulumtuesese _____ Data: _____